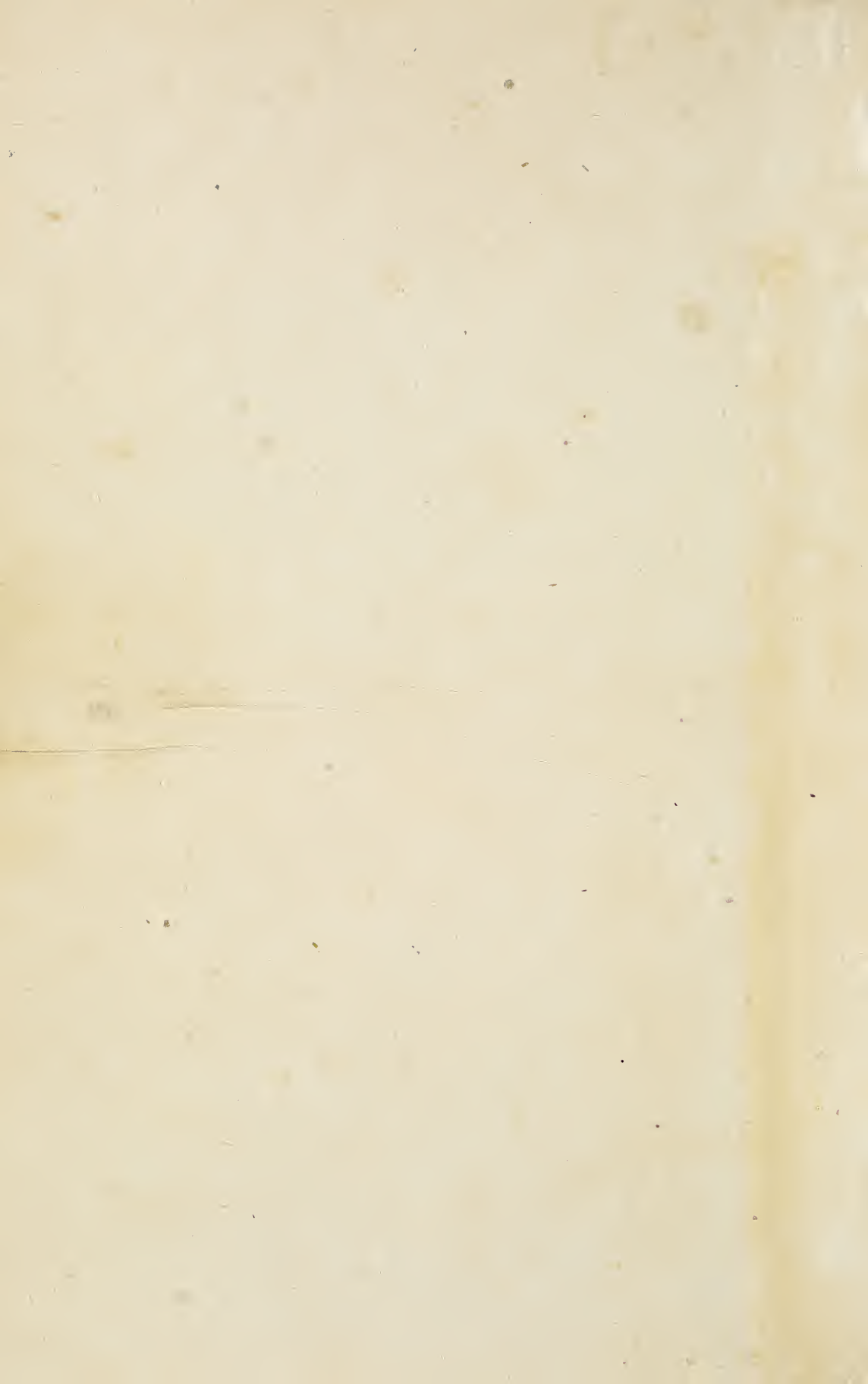


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A M E R I C A N

A G R I C U L T U R I S T ;

DESIGNED

TO IMPROVE THE PLANTER, THE FARMER, THE STOCK-BREEDER,
AND THE HORTICULTURIST.

AGRICULTURE IS THE MOST HEALTHY, THE MOST USEFUL, AND THE
MOST NOBLE EMPLOYMENT OF MAN.—*Washington.*

A . B . A L L E N , E D I T O R .

VOLUME VI.



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THE NEW VIGNETTE.

We promised our subscribers a new vignette for this volume, but are prevented giving it in the first number, by an unfortunate accident. It was engraved on the 23d of last month, and sorry are we to add, that just as it was put in the form for use, it split through the centre, owing to a defect of the block, which so materially injured it as to render it unfit for use. We could not wait for a new block to be cut, as this would require nearly a week; and thus we are compelled to go to press without the promised vignette. The engraver has set to work again on a new one, and we hope to present it in the February number, without fail. The design is rural, chaste, and pretty, and such as no doubt will give general satisfaction.

COLD WATER FOR STOCK.

FARMERS, are you aware that very cold water in the winter, as well as summer, is injurious to your stock? If not, we can assure you that such is the fact. It often causes disease, especially of the bowels; and under no circumstances will cattle drink so much of it as is absolutely necessary for their thrift.

Water, if possible, should be obtained from a spring, and be drunk as it bubbles out, at a moderate temperature, or be pumped up fresh from a well, or be taken from holes cut through the ice of a deep stream or clear pond. The water of a swift running stream, where more or less of its surface is exposed to the frosty atmosphere, is usually quite too cold for healthy drink. That also taken from standing troughs or shallow pools, with the ice broken up in it, is equally injurious. It is better to have the water brought from a spring, into the yard or stable, and when wanted, turn it into a trough

easily accessible for the stock. When they have drunk sufficiently, stop the running of the water and draw the troughs dry, then no ice is made to chill the water excessively, to the injury of the animals drinking it.

PUMPKINS AND APPLES FOR SWINE.

THE English editor of Boussingault's Rural Economy, asserts, that Americans say, "a hog will die upon pumpkins and apples alone, but he will live and fatten on a mixture of the two." This is the only place we ever met with the above observation; yet so far as our experience extends, we know it to be incorrect. We have kept swine of various ages for weeks, exclusively on pumpkins, and never knew them to do better; and that they will not only live and thrive on apples, alone, is notorious the country over.

We once shut up a lot of Berkshires of various ages, in a tight pen, with a plank floor, and commenced feeding them on raw pumpkins. As our neighbors dropped in from time to time they would look at the gruntings, shake their heads and declare if we did not take the seeds of the pumpkins away, they would cause the swine to stale so exceedingly, as to make them skeleton poor in three weeks. We had great faith in our breed, and so let them continue to eat the seeds and all for upwards of six weeks. During this time they had nothing else that we recollect but water, of which they drank very sparingly. They thrived finely during this time, nor did they stale much more than common. Indeed, so well were we satisfied with their condition at the end of this period, that we should have continued them on the same food as much longer, had not the pumpkins been all consumed.

With a poor breed of hogs we have no doubt but

pumpkin seeds may be the immediate cause of diabetes. Yet even for these, if the pumpkins be boiled or steamed, we do not believe any harm will come from their eating the seeds; on the contrary, we have no doubt they would prove highly nutritious.

NEW YORK STATE AG. SOCIETY.

At the regular monthly meeting of the Executive Committee of the New York State Agricultural Society, held at their rooms in Albany, on the 10th of December, the following resolutions were adopted:—Present—Messrs. Sherwood, Vail, Prentice, Tucker, and McIntyre.

On motion of Mr. Vail, *Resolved*, That the committee on loaning the surplus funds of the Society, appointed at the last meeting, be continued with same powers.

On motion of Mr. Tucker, *Resolved*, That the thanks of the Society be presented to Lewis F. Allen, Esq., for a copy of his *AMERICAN HERD BOOK*, presented to the Society.

The Executive Committee then took up the forming of the several committees, on awards, for the next annual meeting of the Society, in January next. The following gentlemen were appointed:—

On Farms.—J. P. Beekman, Columbia; Anthony Van Bergen, Green; Mr. Fuller, Onondaga.

Experiments and Essays.—A. B. Allen, New York; E. Emmons, Albany; Sanford Howard, Albany.

Designs for Farm Buildings.—Geo. Geddes, Onondaga; Jno. McD. McIntyre, Albany; E. Mack, Tompkins.

Cheese Dairy.—Benjamin P. Johnson, Oneida; Thomas Hillhouse, Albany; Ira Hopkins, Cayuga.

Butter Dairy.—Zadoc Pratt, Greene; Robert Denison, Orange; E. W. Bateman, Cayuga.

Selection of Fruits.—L. F. Allen, Erie; A. H. Stevens, New York; A. Thompson, Tompkins; J. C. Platt, Clinton; J. Jackson, Schenectady.

Wheat, Barley, Rye, and Oats.—Daniel Lee, Monroe; Squire M. Brown, Onondaga; John Wilkinson, Dutchess.

Indian Corn, Corn Fodder, and Peas.—A. Fitch, Washington; Benj. Enos, Madison; C. S. Button, Wayne.

Root Crops.—C. N. Bement, Albany; John C. Mather, Rensselaer; S. B. Burchard, Madison.

Hops, Flax, and Broom Corn.—Samuel Cheever, Saratoga; John Rankin, Ontario; Justus Harwood, Albany.

Tobacco, Cabbage, Clover, and Grass Seed.—C. Marks, Onondaga; G. T. Hackett, Seneca; John Walsh, Albany.

On motion of the President, Mr. Sherwood, *Resolved*, That Messrs. Prentice, Tucker, and McIntyre be a committee to make arrangements for the annual meeting of the Society, in January next.

The next annual meeting of the State Agricultural Society will be held in the city of Albany, on Wednesday and Thursday, the 20th and 21st of January, 1847, commencing at 10 o'clock, A. M. Farmers and the public generally are invited to attend. An extra meeting of the Executive Committee will be held on Tuesday, the 19th of January, at 10 o'clock, A. M.

PRESERVATION OF SEEDS FOR SHIPPING.

A CORRESPONDENT wishes to know the best mode of packing up seeds for transportation through warm climates. We know of none better than the following, recommended by Dr. Linnaeus, in a letter dated at Upsal, December 8th, 1758, and addressed to John Ellis, then Governor of the colony of Georgia:—

Seeds may be brought from abroad in a growing state, if we attend to the following method:—Put your seeds into a cylindrical glass bottle, and fill up the interstices with dry sand, to prevent them from lying close together, and that they may perspire freely through the sand; then cork the bottle, or tie a bladder over the mouth of it. Prepare another glass vessel so much larger than that which contains the seeds, that, when it is suspended in it, there may be a vacant space on all sides, of about two inches distance, between both glasses, for the following mixture:—Four parts of nitre (saltpetre), and one-fifth of one part of equal parts of common salt and sal ammoniac (muriate, or hydrochlorate of ammonia); these must be well pounded, and mixed together, and the spaces all round, between the outward and inward glasses, well filled with it. This saline mass, which should be rather moist, will always be so cold, that the seeds in the minor glass will never suffer during their voyage, from the heat of the air. This experiment has been tried, and has not failed.

Seeds may also be preserved, during the voyage, by immersing them in equal parts of melted beeswax and mutton tallow, or in melted beeswax alone, at as low a temperature as these substances can be reduced without congealing, and keep them in the coolest part of the ship to prevent the wax or tallow from melting.

AN EXCELLENT AND CHEAP PUDDING.—One pint of rice; twelve apples of good size, and sour; pare, core, and slice them; mix the rice and sliced apples, and put all into a bag and boil for half an hour. The bag must be large enough to allow the rice to swell, and yet no larger than the rice, when swelled, will fill. Eat with any sauce that suits the taste; butter and sugar are excellent.

TO REMOVE DUST OR MOTES FROM THE EYE.—Farmers, as well as many other persons, are often so exposed in their labors as to get dust or motes in their eyes, and frequently suffer considerably before they can find any means of relief. The following simple remedy is almost always near at hand, and in most cases will prove effectual:—Fill a cup or goblet with clear cold water, quite to the brim, and place the eye in distress in such a position as to be completely within the water in the cup; then rapidly open and shut the eye a few times, and the dust or mote will be immediately washed away. If a cup or other vessel be not at hand, the eye may be placed in a spring or bucket of water.

TO STRENGTHEN CIDER OR VINEGAR.—Suffer them to be repeatedly frozen, and separate the ice from the liquid as long as it will freeze.

THE HORSE.—No. 1.

ALTHOUGH various articles have appeared from time to time in our preceding volumes, on the subject of the horse, we still feel as if we had not paid that attention to this noble animal to which his intrinsic merits and invaluable services entitle him. We now propose, in a series of articles, to discuss him; his history in America; the various races here; the sources whence derived; the modifications, changes, improvements, and deteriorations arising from our climate, mode of breeding, feeding, tastes and necessities; the anatomy of both the bones and the muscles; the modes of breeding now in use, both good and bad, with the true principles of breeding, as shown by the practice of skilful breeders, and recognized by the most eminent authorities on the horse; and finally, the proper method of rearing, breaking, gait-making, matching, and preparing for market.

We are constantly entrusted with orders to purchase horses, as well for use here, as for shipment to distant portions of the country, and particularly the South. In the execution of these orders, we are necessarily asked many questions regarding horses, and their various qualities. Many inquiries now constantly made of us will be anticipated, and our correspondents saved much needless trouble, by having the means to order understandingly; and when their orders are properly executed, to receive and appreciate the animals sent them. This, of itself, would be a sufficient reason for discussing, in our pages, what we have above proposed. But we have still a stronger inducement; the endless impositions practised in the sale of horses, not only as to value and soundness, but as to the various kinds, need exposure. Almost every man fancies himself a capital judge of the horse, in every respect, except his soundness; and he is so, if his *own tastes* and *peculiarities* are the *standard* for determination. But the tastes of the mass of those who own or use horses are far from being a standard of excellence, and hence, when horses are purchased under the direction of such judgments as are formed by the mass, disappointment, in most cases, is the result. Upon this defective taste and bad judgment, knavery practises; and the frauds effected, and the money expended and wasted, are incredible. Would those who purchase horses without the requisite knowledge, trust themselves to an honest dealer to furnish them, or employ some reliable person having the necessary qualifications to purchase, these impositions, in the main, would be avoided. The honest dealer must be paid for his honesty (as indeed integrity must be in every pursuit), and in case he has unfortunately sold a horse which proves less than represented, he will ever be ready to receive him back, or make amends by a rebate in price. Any person, however honest, is liable at times to sell an unsound horse; disease may be in the system, and the horse be unsound, and yet it will not develop itself at the moment, and still, within a day, it may develop, and the horse is diminished in value, or worthless, or soon dead. In such a case, an honest dealer will repay a part or the whole of the price.

Gentlemen at a distance, and particularly at the South, frequently order horses through their com-

mercial correspondents here. The orders are entrusted to dealers, and it is impossible that the merchant here can do otherwise. He who buys and sells cotton, sugar, &c., well, will not often buy horses well, and few cotton factors will trust themselves to do so. They do the best that lies in their power; but they have a poor assurance that their orders will be executed well, and with integrity. In such cases, a competent person of integrity, with no motive but a commission, should be selected to view the horses before they are purchased, if he be not employed to make the purchase. An honest veterinary surgeon would be a proper person for such a purpose. A merchant putting himself in the hands of a dealer will, in most cases, be cheated. We every week see instances of this. Horses with unsound fore feet, if even the disease be so slight as to be not perceptible before shipment, will badly stand a sea voyage. Few horses lie down at sea. A diseased fore foot is soon overtaxed, and the weight of the carcass is thrown upon the hind quarters, and the loins are strained excessively. In such a case violent inflammation of the kidneys is almost inevitable. If the hind leg be diseased, the fore foot always is overworked, and often severe founders arise; and fevers always will set in, which will be followed by contraction of the hoof, rendering the horse unsound, and finally worthless. A horse diseased in the lungs (the worst of all diseases) may, by a few cordial balls and doses of medicine, appear sound when he goes on shipboard; if he sails but slightly diseased, he will land at his port of destination ruined; and if he be much diseased, he will not survive the voyage.

Horses are frequently shipped from the North on Southern orders, in an unsound condition, and, with the least stress of weather, die. The loss is imputed to the sea. Had the horses been sound when shipped, they would have survived, and done good service. Many unsound ones, when landed at their port of destination, are deemed to have been ruined by the voyage, when in truth they were shipped in a diseased condition. Sound horses are like sound men; they endure well; and a voyage, unless one of great length, and in weather of great violence, has but little effect on them. Instances of the loss at sea of diseased horses we have known, and the voyage received the blame which belonged to the dealer or agent who shipped, while escaping censure and receiving a rich reward, all the richer by his fraud. For his worthless, unsound horse, he received the price of a sound one, and the sea hid the proof of his iniquity; and had the horse escaped the sea, his condition would have been ascribed to it.

There is still another method of fraud. A gentleman wishes a particular kind of horse, or from a particular region. He knows only the name of the kind of horse he wishes, but does not know the proper horse to answer to that name; or he knows the region from whence he desires to derive a horse, but he has no means of knowing if indeed he came from thence. He may desire a Morgan horse, or a Messenger, and your rascally dealer or dishonest agent always can furnish him; he may desire a horse from the North, and the same dealer and agent will fill the order with a gouty, corn-fed, Western brute.

Now, why is it that these impositions are and can be practised? It is because of the ignorance of purchasers, and the pretensions and dishonesty of knaves. The object in this series is to show what a horse should be in the general; what he is in his particular varieties; what those varieties are, and their purposes; and thus enable our readers to judge of the means, not only of producing the right sort of horses, but of purchasing them understandingly. For this purpose we bring to bear not only our own experience, but also the matured judgment of others, whom we know to possess a knowledge unsurpassed on this subject.

We shall, in our next, take up the bony and muscular anatomy of the horse, illustrated, pointing out what constitutes a good horse, and why; and shall follow on with the history of the American varieties, illustrating each with an appropriate cut. If we execute our task as well as we hope to do, we shall render a great service to breeders and purchasers.

AMERICAN AGRICULTURAL ASSOCIATION.

THE regular meetings of this association have been held, as usual, at the Rooms of the Historical Society, and are to be continued on the first and third Wednesday evenings of each month.

A New Theory in the Growth of Plants.—Dr. A. H. Stevens read a paper on evaporation and capillary attraction, as connected with the growth of plants. He stated that the effect was not to leach the soil, and carry down its valuable materials beyond the reach of the roots of plants, because when the surface of the soil becomes more or less dry by evaporation, the water thus charged with fertile matters was drawn up again. A brick wall, by capillary attraction, will raise water to a height of twenty feet, if its base rest upon the ground. On the borders of a salt marsh, on his grounds at Astoria, along a road not overflowed with water, he said there are seen during a drought incrustations of salt upon the surface.

He contended that, in very dry weather, the water is attracted from a considerable depth, thus preventing the loss of valuable materials, which otherwise would be lost in the earth by the infiltration of rains, &c. The rapid growth of plants after a rain succeeding to a long drought, he attributed in part, to the concentration of fertilizing matters in the surface soil consequent to its previous desiccation.

Artificial watering of plants during a drought he thought often to be injurious, and never comparable in efficacy to natural rain. He explained this fact in saying, that by capillary attraction, the fertilizing materials around the plant dissolved by the water, artificially applied, were taken away by the dry soil adjacent.

He also explained, by the same laws, the arrangement of the radicles of potted plants on the bottoms and sides of the pots, as well as the advantages of small and frequently changed pots, and the sticking of cuttings close to the sides of the pots, rather than in the centre, and concluded his interesting paper by expatiating upon the beautiful provision by which plants incapable of moving, for the purpose of seeking their food, have it brought to them

by the alternate movement of fertile liquids, passing downward during a rain, then upward by capillary attraction, and evaporating from the surface, and at all times, by the suction of its radicles and capillary attraction, to replace the moisture so abstracted.

Improvement of Long Island Lands.—A resolution was passed, offering a premium of \$100, to be awarded to the person who shall produce the best essay on the means of cultivating profitably the plains of Hempstead, Long Island; the essay to be both scientific and practical, and to be presented to the Society on the first Monday of October, 1848.

THE DISTINGUISHED BLOOD HORSE, HORNBLOWER, has been purchased in New Jersey, and sent to Genesee county, in this State, as a stallion. He is a fine brown, with little or no white marks, sixteen hands high, and possesses great style and substance. He is a first class carriage horse. He has three crosses of imported Messenger. He was bred by Mr. Van Mater, of New Jersey, and was got by Monmouth Eclipse; his dam, by imported Expedition, out of Zelipha, by imported Messenger, &c. Monmouth Eclipse was got by American Eclipse, out of Honesty, by imp. Expedition, granddam Zelipha, by Messenger. American Eclipse's dam was by Messenger. Every horse and mare in Hornblower's pedigree has been a racer, and they have got and produced racers; and not racers only, but the very best of road horses. Hornblower possesses in an eminent degree the style, size, bone, and substance, united with an admirable color, to get the finest of road stock for the New York market. We congratulate the breeders of Genesee Co. and its vicinity, on the acquisition of this fine horse, and commend him to them. We shall look for his get to be for sale here in a few years, and we are confident none better will be offered.

CREAM that has been suffered to stand until rancid, or slightly mouldy, which is often the case, should never be churned; it may make very palatable cream cheese, but abominably bad butter. Cream never rises from the milk after thirty-six hours' standing. This may be proved by the lactometer. It becomes more solid, and thus appears thicker, but nothing is gained in quantity, and much lost in quality, by suffering it to stand too long before skimming.

HOW TO MAKE INDIAN GRUEL.—Take 1 quart of boiling water and stir in 2 or 3 tablespoonfuls of finely-sifted Indian meal, previously mixed with a little cold water. Add salt to your liking, and let the mixture boil for fifteen or twenty minutes. A small quantity of pulverized crackers, a few raisins, or a little sugar added, will render it more palatable to the sick.

A FINE BLUE-WASH FOR WALLS.—To two gallons of white-wash, add one pound of blue vitriol dissolved in hot water, and one pound of flour, well mixed.

ISINGLASS and gin, dissolved together by slow heat, makes a good cement for glass.

DEFECTIVE STABLES.

ONE of the greatest defects still existing throughout the country, in the farmer's stables, is the want of tight floors, and a channel in them for the purpose of carrying off the urine of the stock into tanks for its preservation, to be applied at a future day to the grass and clover crops. We advise all who have not their stables thus formed, to remedy the defect as soon as possible; and those who cannot immediately do this, should litter their stock well. The litter will absorb and preserve nearly all the urine, especially if it be whitened every day with a sprinkling of plaster of Paris. If plaster cannot be had, charcoal dust is next best, then peat, tan bark, or indeed most any dry absorbing vegetable substance.

The average stale of a cow is from 900 to 1,200 gallons a year, according to size; that of the horse 1,100 to 1,400. Pound for pound, this liquid is much more valuable than solid manure.

The Chinese and Flemings save and apply all animal liquids with the utmost care. They would as soon let their silver coins be lost as this precious fluid; and they are the best farmers in the world. The Germans, French, and English, are now rapidly following in their footsteps. Millions of dollars' worth of manure are annually thrown away, or suffered to waste throughout the United States. When shall we become as economical in saving, and as enlightened in applying these enriching substances as our transatlantic brethren?

ROCK SALT.

ALL who keep domestic animals, are aware of the necessity of supplying them regularly with salt. Various means have been tried to effect this desirable object; but so long as the ordinary kinds are used, it cannot be done without considerable extra trouble, attended with more or less waste. We have tried all sorts of ways on our farm—the manger, troughs, both under and without cover, together with some few patent inventions, and yet we could never contrive to place this necessary condiment where it could at all times be accessible to stock, till we procured the English rock or mineral salt.

This salt is as hard as alum. A lump of it may be placed in the field, where it will lie for years exposed to all sorts of weather, with but little waste. It is therefore just the thing for horses, cattle, and sheep. Place a lump in the rack or manger, in a trough, or in a field, and there it will remain till it is gradually licked away. By using this kind of salt, the stock will always take it as they desire; nor can they get it in excess, or suffer injury from it as is often the case with the use of most other kinds. We have recently had a small quantity of this article sent us from England, and in answer to numerous inquiries, add, that we can supply it at one dollar per 100 lbs.

THE CORN CROP IN THE SOUTH WEST.—Our correspondent at Washington, Miss., says, under date of Oct. 29th, that corn has been a fair crop above Baton Rouge. It was supposed to be very heavy

until we commenced gathering, when both shucks and cobs, proved to be unusually large, owing, it is supposed, to the wetness of the season. The demand for export, and for the lower parishes of Louisiana, together with the lowness of the rivers, have caused a rise from 70 to 75 cts. per bushel. It will run much higher should the rivers freeze up without a rise. A great deal of corn has been sent from this part of the country, and brings a notch above the highest market price.

COLOR FROM ST. JOHN'S WORT.—The flowers and tops of this plant contain a juice soluble in water, spirits of wine, or vinegar. With the first two liquids it forms a red color, resembling blood, and the latter a splendid crimson; when alum and a portion of potash are added to a strong solution of juice in water, it becomes a permanent yellow dye for cloth, cotton, paper, &c.

NEW YORK FARMERS' CLUB.

SINCE the Fair of the American Institute, the meetings of this Club have been resumed, and, as usual, will be continued on the first and third Tuesdays of each month. The subjects for discussion or investigation are various, and are listened to with increased interest.

Supposed Influence of the Gases of Brick-kilns on Vegetation.—Dr. R. T. Underhill stated that, seven years ago, he began to notice the evil effects of the gases emanating from burning brick-kilns on neighboring vegetation, and that they had since caused hundreds of thousands of dollars damage to agriculturists, which was particularly manifest in numerous fields and orchards between New York and Albany, in being severely injured or destroyed. He exhibited specimens of leaves of fruit and forest-trees as well as of garden vegetables, which he conceived had been killed by the gases of a brick-kiln about half a mile from his farm. On one occasion, when his men were at work in the field, there was a gentle breeze accompanied with a fog, coming from the direction of the kiln, and causing a strong smell of carbonic acid and of carburetted hydrogen, which could be perceived all over his vineyard. The next day he found the leaves of his vines greatly injured, and those on his Newtown pippin trees partly killed. He said that he had noticed that this occurred on the leaves that contained moisture, but when the gases passed over his farm, unattended with dew, fog, or rain, there appeared to be no damage done. In June last, the crop of apples in his orchard was very promising, but when they had acquired the size of marbles, the kiln commenced burning, and by means of its gases accompanied by a fog, the whole crop of fruit was cut off. He said that forest-trees and crops of grain, carrots, sugar-beets, &c., had been much damaged by the same cause; and that if fruit-trees should happen to be in blossom when these gases were in the air, the destruction of fruit would occur at the distance of fifteen miles, in the direction of the wind! During the burning of these kilns, vast volumes of gas escape for many hours together, killing orchards at the distance of ten miles! Near

Haverstraw, on the Hudson, it injuriously affects all vegetation—orchards are killed for three miles! The Newtown pippins are rendered rusty, gnarled, and covered with rough dark spots. The fuel employed in burning the bricks he said was wood, followed by fine mineral coal. (a)

Professor Mapes said that he had listened to the ingenious observations of Dr. Underhill, and would endeavor to give the *rationale* of the case. By application of adequate heat, alum is formed by means of the alumina and potash in the bricks, and the sulphuric acid from the coal. The alum, thus formed, rises by mechanical action in the ascending currents of heated gases or air, in infinitesimal atoms, which, in being deposited upon the neighboring plants and trees, moistened by dew, fog, or rain, would, when dissolved, directly damage their leaves.

Dorking Fowls.—Dr. H. A. Field exhibited a very convenient wicker cage, made by the paupers of Blackwell's Island, containing several fine fowls of the genuine Dorking breed. He said that he thought these fowls deserving the attention of the Club, and he had accordingly brought them for examination. The breed, he said, was first introduced into this country by Mr. A. B. Allen, who spared no pains in procuring them when he was in England, in 1841. Since that period, he said, that there had been two other importations of pure breed, by Captain Morgan, who procured them of a clergyman of Dorking, at a guinea each, exclusive of other expenses. The first of these importations, continued Dr. F., was taken by Mr. L. F. Allen, of Black Rock, N. Y., from whom the fowls in his possession were obtained. This breed, in an unmixed state, he remarked, is generally distinguished in having five toes to each foot, from which circumstance some persons have been induced to pass off other fowls that are occasionally to be found with five toes, as Dorkings. This forgery, he said, has caused the genuine breed to fall into disrepute. (b) The true Dorking, has a remarkably full, square breast, with short legs and neck, the former of which, he said, are always of a delicate flesh-color, or white. The chickens, when about six weeks old, are deemed as a luxury equal to the best game birds. The flesh and skin of these fowls in an adult state, are also white, and delicate in their flavor, by reason of which they are universally preferred by the English nobility.

The remarks of Dr. Field were confirmed by Messrs. Havens and Watson, who had been in England, and had had opportunities to test the qualities of these fowls.

(a) The observations of Dr. Underhill, as given above, we must confess, appear to be very extraordinary, and are at variance with facts so far as our own knowledge extends. We have no doubt of the truth, that vegetation growing in the immediate vicinity of burning kilns, existing, under some circumstances, will be injured; but when fruits, plants, and trees, show signs of death or decay, at the distance of miles, we think that it must be attributed to some other cause. For the benefit of our readers, however, we insert the following letter from Dr. Jackson, whose authority is undoubted,

and who, in due time, we hope will further enlighten us on the subject.

Boston, December 7th, 1846.

It is well ascertained that sulphurous acid gas driven off from pyrotiferous clays by roasting, is injurious to vegetation, and if the clay used in the brick-yards contains either sulphurets or sulphates, the action of heat and of carbon will cause an abundant disengagement of sulphurous acid gas.

The roasting heaps of sulphurets of iron and copper, destroy vegetation for some distance around, and the action is most marked when there is moisture on the leaves, the acid being thereby condensed. Alum is not volatile at any heat used in brick-making. It may be decomposed by carbon and lime at a red heat, and then gives forth sulphurous acid gas. Sulphates of potash and soda are decomposed in the same manner. I have not observed any injurious effects produced by the burning of bricks in this vicinity, but since you have called my attention to the subject I will inquire into the matter.

C. T. JACKSON.

(b) The five toes on Dorkings are a source of great fraud. Almost every fowl with that number of appendages is brought to market and sold as a pure-bred Dorking. In order to avoid this, the number of toes is not to be depended upon alone, as plenty of fowls may be had with five toes that are only half-blood. In Surrey, England, where the Dorkings originated, and are largely and better bred than elsewhere, the most celebrated breeders have commenced to breed for only four toes. The best Dorking fowls that we have ever seen had only four; and it is a curious fact that, among the pure unmixed breeds, where they have five toes, it frequently occurs that their offspring will have but four.

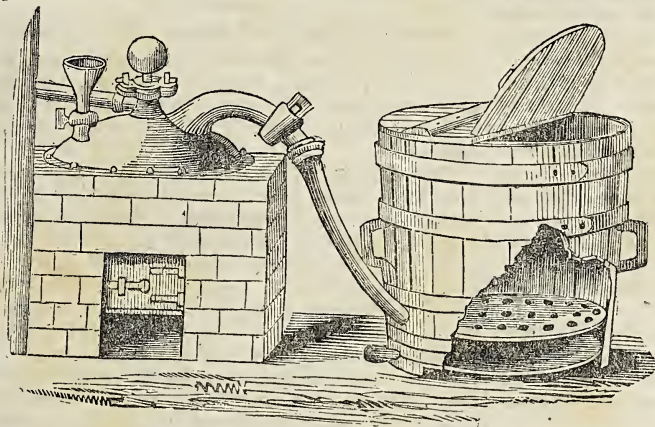
It may be interesting to some to know that it is of this breed of fowls that the capons, so much esteemed by English epicures, are made whenever they can be procured.

STEAMING FOOD.

In the preceding volumes of this work, we have given various articles on grinding and boiling food for stock, accompanied with numerous illustrations. We shall now treat of steaming food, for, in some respects, it is superior to boiling.

In boiling, the blaze is outside of the kettle and the food inside; it is, therefore, in continual danger of being burned and much injured, unless some one stands by constantly stirring it. This is not only troublesome and inconvenient, but often adds more to the expenses of cooking, in the time of the person thus employed, than under ordinary circumstances can well be afforded. Nor do we see how this is to be avoided, unless the kettle be made with false sides and bottom, allowing several inches space between them and the true, which space must be kept constantly full of water. This would nearly double the expense of the apparatus, require its being closely watched during the boiling, in order to fill the space between with water as fast as it evaporated; the process of cooking would also be slower in this method, as it would require more heat around a double than a single kettle to bring the water within to a boiling point.

If food is to be cooked, on a small scale, boiling may be cheapest; if on a large scale, steaming is not only cheapest, but infinitely more compact; for the former would require a very large, or several furnaces, for different sets of kettles, whereas, the latter may be done with one small furnace, steamer, and pipe, as shown in the cut, with any reasonable number of vats or tubs surrounding, in which to steam the food. In order to do this, the steam pipe must be made movable with a screw, flexible, or be composed of some material that when the food is cooked in one tub, the pipe can be turned and inserted into another. We have seen no less than five tubs, holding 150 gallons each, surrounding a small steamer, all of which could be filled with food and cooked within twenty-four hours. Three tubs, however, are usually sufficient for a large stock, in which the food of the first may be cooking, that in the second cooling, while that in the third is being fed out. A single person may be able to oversee, and efficiently manage all these operations.



STEAMING APPARATUS.—FIG. 1.

The furnace, steamer, and tub, are so plainly delineated in the above cut, that they need no explanation. In cooking potatoes and other roots, the tub should have a false bottom perforated with numerous small holes, and set resting on blocks from 3 to 4 inches above the true bottom. The steam-pipe should enter the tub nearest to the true bottom. The steam is thus introduced between the two bottoms, quickly rises upward, and is evenly diffused through the whole of the food. While the cooking process is going on, the top of the tub should be kept down as tight as possible, so as to prevent the escape of any steam. In cooking grain or meal, the false bottom must be taken out and the tub filled with water, as the steam heats the water and brings it to a boiling point as readily as a blaze or hot coals around a kettle.

Steaming is said to do its work more thoroughly than boiling, as it is so insinuating, it easily enters and bursts all the minute globules in the grain and vegetables. Be this as it may, certain it is, that either process renders the food more digestible, and easier assimilated by the absorbing vessels, and therefore more economical.

The following table in the Edinburgh Journal of Agriculture, shows very nearly the increase of bulk of different kinds of grain boiled to bursting.

4 measures of oats increased to				7 measures.
4	"	"	barley	10
4	"	"	buckwheat or bran	14
4	"	"	maize increased to	13
4	"	"	wheat	10
4	"	"	rye	15
4	"	"	beans	8½

Boiled food, especially in winter, is much more nutritious, if fed as nearly blood warm as possible. If quite cold, or, above all, if in the least degree frozen, we doubt whether it is so beneficial as if uncooked—grain and meal we are certain are not; for animals will eat the raw, cold, more greedily than they will the cooked. Stock fed upon cooked food will eat more of it than if uncooked, and lie down quicker to rest. Of course all this is better for them, as they will thrive faster, look finer, and do more work.

It is particularly beneficial to give hard-working horses or oxen, just as much wholesome, cooked food, as they can eat, soon after coming in at night. Toiling all day in the open air, man appreciates and knows well the benefit of a warm, hearty supper. Let him remember, then, that a warm mess and abundance of it, is equally beneficial to the animals which a kind Providence has given him as efficient aids in his arduous labor. If southern planters also would give their mules cooked instead of raw food, at noon and night, we are persuaded it would put an end to the colic, so often destructive among them. Cooking would also considerably economize the food.

SENECA COUNTY AG. SOCIETY.—We are favored with the annual proceedings of this Society. It distributed about \$300 in premiums at its last show, and has a goodly number of members. The average product of wheat in Seneca county, is 15 bushels per acre; barley, 14; oats, 35; and corn, 27. The President of the Society, John Delafield, Esq., states in his address, that the cost of raising an acre of wheat in round numbers, is \$13; that in order to make the crop pay, a larger average must be produced, which he demonstrated could be easily done under an improved state of husbandry, as many farms in the county still average from 20 to 35 bushels per acre. The number of sheep in the county is estimated at 7,000, mostly Merinos. We notice that the President of the Society took the first premium for the best farm. This speaks highly for Mr. D., as it is but a short time since he left this city, and commenced the cultivation of mother earth.

SEIDLITZ POWDERS.—Each dose contains 25 grains of tartaric acid in the white paper, and 30 grains super-carbonate of soda, mixed with two drachms of glauher salts, in the blue.

GARDENING.—No. 10.

THE art of gardening, in the earlier ages of society, was practised without those local subdivisions, or technical distinctions, which its progressive improvement has since rendered necessary; and being carried on in one enclosure, called a garden, the term gardening was then sufficiently explicit for every purpose. But, at present, the local subdivisions and technical distinctions of this art are various; we have the kitchen, fruit, flower, forcing, and exotic gardens, the pleasure ground, park, shrubbery, &c., all within the province of gardening; and the terms culinary gardening, fruit gardening, or orcharding, flower gardening, &c., as technical distinctions for them. Such being the state of the art, it would be folly in us to endeavor to limit the term gardening to any standard below that in which it now ranks, although it is very desirable that gardeners and authors should not use these terms in so vague a manner as to create any confusion of ideas on the subject.

In treating upon the practice of gardening, allow me to define my position and state my intended course. We think that all varieties of gardening may be included under four heads, as follows:—

Horticulture, the object of which is to cultivate products used in domestic economy. It includes culinary gardening and orcharding; and forcing or exotic gardening so far as respects useful products.

Floriculture, or ornamental gardening, the object of which is to cultivate plants ornamental in domestic economy. It includes flower, botanic, and shrubbery gardening; and forcing and exotic gardening so far as respects plants of ornament.

Arboreal culture, or the planting of trees and shrubs, either ornamental or useful.

Landscape Gardening, the object of which is, so to arrange and harmonize the external scenes of a country residence, as to render them ornamental, both as domestic scenery and as a part of the general scenery of the country.

The first variety under the head of horticulture is culinary gardening. Let us attend to this closely, as it is one of the most important branches; for it has been truly said, that "next to a badly designed, ill-placed house, a misplaced, ill-arranged, and unproductive kitchen garden, is the greatest evil of a country residence."

Situation.—"The situation of the kitchen garden, considered artificially, or relatively to the other parts of a residence, should be as near the mansion and the stable-offices, as is consistent with beauty, convenience, and other arrangements." (*Loudon*.)

"A kitchen garden should not be situated at any great distance from the house, lest, being too much out of sight, it should be out of mind, and the necessary culture of it too much neglected." (*Dr. Deane*.)

"In a great place, the kitchen garden should be so situated as to be convenient to, and, at the same time, be concealed from, the house." (*Nicol*.)

"It should be placed adjoining to a stable, whence the dung may be easily conveyed into the enclosure." (*Fessenden*.)

"A gentle declivity towards the south, a little inclining to the east, to receive the benefit of the morning sun. If it be situated in a bottom, the

wind will have the less effect upon it; but then damps and fogs will be very prejudicial to the fruit and other crops; and if situated too high, although it will in a great measure be free from damps and fogs, it will be exposed to the fury of the winds, to the great hurt of the trees." (*Forsyth*.)

"The situation should not be so elevated as to be exposed to boisterous and cutting winds; nor should a very low situation be chosen, if circumstances afford any choice. It should be situated conveniently for access from the house." (*Abercrombie*.)

"Avoid low situations and bottoms of valleys, because there is often a sourness in the earth that cannot be eradicated." (*Switzer*.)

From these various opinions it would seem that the most proper situation for a kitchen garden, when circumstances will admit, is a gentle declivity to the south and east, and in the rear, but close to the dwelling-house, easy of access from the stables, and if possible entering it from the house, on the southern or south-western side. L. T. TALBOT.

IMPROVEMENT OF WORN-OUT LANDS.

An opinion has prevailed, that, when lands are worn out by culture, without manuring, they become worthless, and cannot be restored. I here-with furnish an example of the fallacy of that opinion.

Four years ago, I purchased a farm of little more than forty acres, near the north edifice of Union College, and about a mile and a quarter from my dwelling in town. It had been called the *Pennyroyal* farm by way of ridicule. This farm was chiefly occupied with thorn bushes, briars, and other worthless shrubbery. It had been cultivated by the former owner so long as it would produce buckwheat, or anything, without any manure.

A small patch, enclosed with the garden, was in rye, and had been sown with foxtail (commonly called timothy), and I sowed foxtail again on the rye; the next season grass. When the hay was in cock, my farmer asked his man to take the hay as a reward for mowing it, which he reluctantly accepted. The other parts of the farm were pastured, producing some sour grass, moss, and bushes. We plowed a few acres of the sward, and planted it with Indian corn. A part was manured with poudrette, and some with plaster, ashes, and manure. Where the poudrette was applied, it took the lead greatly for awhile, and eventually all was of equal growth, and a good crop. The following crop was oats, and good. We then put on a good coat of barn-yard manure, plowed and sowed it with winter wheat, the yield of which was very fine, and about thirty bushels to the acre. No better wheat was seen in this region. We have put on the cultivated part of the farm from two to three hundred wagon loads of yard and stable manure annually.

The farm is high land, and an inclined plane to the west. The same rising slope east, with the adjoining part of this farm, has a stone quarry, about two feet below the surface. The depth of soil increases as it declines to the west. The rains and melted snows flowed over the whole surface, when I took possession. The soil is generally of stiff clay. In April, it was so wet, that when walking

on the grass, the water would wet over the shoes. I opened a ditch along the east bounds, which conducted the surface water to the road. I then made a number of ditches, of three and a half to four feet deep, and covered them, after laying a drain of stone large enough for a cat to pass through. The sides were laid with stone and a stone cover, then straw, or turf, the grass-side down, before covering with earth. The ditches yield a regular and clear stream till June or July. The land becomes sufficiently dry for the plow and meadow, and produces bountifully.

A meadow, in a detached piece towards the west, I ditched in a similar manner, and it yielded a pure stream till midsummer. The former owner came to see it mowed, and said, that he never before saw the timothy *eared out*, nor of half so large a growth. This was the effect of draining only, I had not manured the meadow. This meadow had not been plowed before. My crops have been as good as those of our best farmers. I have set some hundreds of plum, pear, peach, quince, and apple trees, on the farm, and grafted the old orchard, intending to make it a fruit farm.

An opinion has also prevailed, that the old and best pears have *run out*, as the saying is, and have become worthless. This is also an error. If the old trees which produce poor fruit, are well manured, they will be restored to their former value, and yield good fruit, large and fine. Try it, as I have done with my pennyroyal farm. It is a common opinion, that after setting trees, the work is finished. Trees profit by manure, as other vegetables do. Feed bountifully, and you may reap bountifully. Everything possessing life, whether animal, bird, or vegetable; whether living on land, in the air, or in the water, must eat, drink, and breathe, to sustain life. An oyster, or clam, requires very little air; deprive them of it, and they perish. Land animals and vegetables must not be suffocated with water, nor those of the water by air. Agricultural papers have done much to improve the system of farming of late. Farmers will profit, and be well rewarded beyond their cost, by reading them regularly. I gathered quinces to-day, in my garden, in town, and found the largest to measure 12 $\frac{1}{4}$ inches in circumference, and weighed 15 $\frac{1}{2}$ ounces.

DAVID TOMLINSON.

Schenectady, October 22d, 1846.

COUNTY FAIRS.

THE best index we can have of the progress making in agricultural improvement, will be the prosperity of county societies. If these are prosperous, and are constantly increasing in the number of their members, and in the interest they awaken, then we may be sure that the right feeling is abroad, and that the great mass of farmers are becoming aroused to the importance of a general organization. It has so happened that I have attended the fairs in three several counties, this season, Wyoming, Genesee, and Monroe, and at each I saw much to encourage, much to commend, and I propose to give you a short account of each, with such remarks as suggested themselves to me at the time I was present. I will take them in the order they occurred, and first

Wyoming.—The annual show and fair for this county was held at Warsaw, on the 6th and 7th of October. The weather was beautiful, and the show of animals very good. There was a very large attendance of people on the first day, and a very fair one the second. Considering that it is purely an agricultural county, having no large towns, and but few villages, and those small, I think the number present was the largest I have seen at any county fair in this section of the state.

I am the more gratified at this large turn-out, from the fact that when we formed our society in this Genesee county, Wyoming was a part of our territory; and at our first fair, which was in 1840, I think there could not have been twenty people from that whole region. On the present occasion, there were not far from 3,000 at the exhibition, and the society is not four years old. The farmers are wide awake, and this county may be set down as one whose course is henceforth onward with rapid strides.

Genesee.—The fair in this county was held at Batavia, on the 8th and 9th instant, and in almost every particular was equal, if not superior, to any we have yet had. The turn-out of people was very large, and the show of animals, especially of sheep, was unusually good. Our show last year was so very poor that it was feared it would be a total failure this; but the farmers rallied nobly, showing conclusively that there is no fear for the cause here. What is peculiarly gratifying, we obtained an abundance of funds this year, without any trouble. A resolution was adopted in the spring, pledging the next annual exhibition to that town which should raise the most funds for this year. There was a good deal of competition, and the town of Stafford obtained it. Our show will be there next year, and I anticipate the greatest show we have ever had yet. As an evidence of the spirit which is abroad, the wool-growers of this county and Wyoming are preparing to form a "Wool-Growing Society," and to hold two fairs annually, one in spring before shearing, and in the fall, as late as the season will permit. I am in hopes that we may connect with it a wool fair. But of all this, I will advise you in due time.

Monroe county fair was held at Rochester, the 15th and 16th inst., and for so fine and rich a county was not what I expected to see. The arrangements were very good upon the ground, and the officers seemed to have done their duty faithfully, but the people had not done theirs so well as they ought. The show of animals as a whole was very indifferent, though there were a few fine ones. Of swine there were several very fine. There was a fair share of coarse-woolled sheep, but a very poor one of fine-woolled. The cattle were good generally, but there were a very few exhibited. The show of horses was also tolerable. Decidedly the best exhibition was of various agricultural implements, and of fruits. The exhibition of domestic goods manufactured in all the counties, was only tolerable, the best in Wyoming, the poorest here.

But from all this, I argue good results, and that next year they will have the best show ever seen in Old Monroe, for a county exhibition. The attendance of people at this as well as at each of the other county fairs, was unusually large. Upon the

whole we have most cheering evidences that the cause has taken deep root, and the good fruit will soon begin to show itself.

Mr. J. B. Nott, the secretary of the State Society, addressed the meeting in Genesee and this county, and let me say to you and all others, that the course he has pursued has had the most happy effect upon the farmers. His addresses are eminently practical, and carry conviction to every mind. He deals in, and disseminates facts, and these are just what we farmers want. The services of such a man properly employed by the society, are invaluable, and will lead to the most important results.

Darien, Oct. 20th, 1846.

T. C. PETERS.

A SKETCH OF WEST CHESTER.

It gives me sincere pleasure to learn from the November number of the *Agriculturist*, that your very agreeable friend, "Reviewer," has advanced so far south as to pay a visit to West Chester, Pa., at least I presume he has seen the *water ram* to which he alludes. I am in the habit of going there at least once every year, and speak from actual observation—and if "Reviewer" has also had the good fortune to enjoy the hospitality of its inhabitants—very sure am I, he will cheerfully bear witness to the truth of the following slight sketch.

He will agree with me when I say there is more love for improvement, science, and public spirit, in that little borough, than any one would even dream of. To be understood, I need only name the water-works, that send an abundant supply of pure spring water to every dwelling, and furnish the luxury of private baths to every family that choose to avail itself of the privilege; their excellent railroad, on which passengers are conveyed twice every day to and from Philadelphia, by steam; and the public and private schools and academies, of which no community of equal numbers can boast more, or better. They have a large and handsome building for a Cabinet, furnished with a beautiful philosophical apparatus; a museum of native and foreign specimens of nature and art, well arranged and preserved, that would do honor to a much larger place. A large, and admirably arranged herbarium, that owes its existence to the untiring zeal and exertions of Dr. William Darlington, who is well and advantageously known as the author of several valuable botanical works, and numerous lectures and addresses on various occasions. They have many fine public buildings, some of which are in the purest styles of ancient architecture; wide streets, laid out at right angles, and gentlemen's residences surrounded by tasteful gardens, and embowered with flowering vines, speaking in language not to be misunderstood, that they are the abodes of refinement, as well as of wealth. They have an Agricultural Society—for the pride of that county lies in their farms and their farming—and, more recently, a Horticultural Society has been established, that promises to make Chester county as advantageously known for its fruits, vegetables, and flowers, as it has long been for the more substantial gifts of Ceres. At their first annual exhibition, held last September, the display of fruits was remarkably fine, and some of the best being transferred, in the following week, to the annual exhibition of the Philadelphia Horticultural Society, re-

ceived prizes there also. The culinary vegetables made a very creditable show, and spoke well for the cultivators; and gave pleasant anticipations to the intended consumers; and the well-filled stages of green-house plants contained a large proportion of rare and valuable species. As to the flowers, whoever has the honor of being acquainted with the ladies of Chester county, will not be surprised to hear that they were beautiful, tastefully arranged, and in great profusion.

To this catalogue, it is hardly necessary to add, that as a community, the inhabitants fully appreciate the advantages they enjoy in their institutions, and sustain them cheerfully and liberally; and the people of Chester county who have contributed thus to raise their county town to the eminence it occupies, from whence it may look proudly down on cities of thrice its size and wealth—set an example well worthy of imitation, in their liberality, their literary and scientific tastes, and their enlightened encouragement of every branch of useful and ornamental art and industry.

West Chester is not one of our *old* towns; fifty years ago, it could hardly boast a name among the neighboring villages. To mention any one as the leading spirit, where so many have combined to raise its moral and intellectual character, and produce the effect we so heartily admire and commend, might seem invidious; yet it seems to me that all point either openly or tacitly, to one as the main-spring of every enterprise; but as all his neighbors are considered by him as equals and friends, rather walking with, than following in, the bright path of improvement,—I will forbear to point him out more closely.

Eutawch.

E. S.

THE MONTHLY ALPINE STRAWBERRY.

The monthly alpine, or *bush alpine*, as it is sometimes called, is perhaps the finest flavored of all the numerous varieties of strawberries which are at present cultivated in this country. Without exception, it is by far the most prolific, being a constant bearer from the latter part of May until November, in the open air, or the whole year when under glass. It is propagated from the root, and being without runners, forms a neat inner or outer border for the garden, occupying but little space, and growing very compactly and evenly.

The fruit in wet seasons is as large as the common strawberry, and in soils at all retentive of moisture, success in the cultivation of it is certain. It is very exclusive in its habits, showing no disposition to amalgamate with other varieties, although the females are in a decided majority. I think it was first introduced into this country by the late M. Parmentier, from France, since which time it has run out of most of the nurseries. I sent you some plants last spring, and I hope they fulfilled your expectations, thus making you an endorser of all I say in relation to them. I have also a remarkably fine seedling, the berries measuring last season five inches in circumference, and being peculiarly rich in flavor. You shall taste them and pronounce judgment, next strawberry time, if I have a fair crop.

WM. B. ODDIE.

Effeweldt, Rockland co., Nov. 21st, 1846.

MANAGEMENT OF HONEY-BEES.—No. 6.

THE rendering of the moth powerless to do harm, simply through the ability of the bees to *protect themselves*, may be illustrated as follows:—

In a thoroughly strong stock of bees the moth has never, as yet, been known to obtain a lodgment to undermine them; if *all* stocks can be kept in a strong condition, it follows that *no* stocks will be undermined. Now, a swarm or stock of bees is strong, and able to resist the moth in the ratio of their numbers to the area to be defended. A thousand bees at work in the corner of a hive, covering fifty square inches of comb, are as fully able to protect themselves against the moth, as twenty thousand bees in a full hive. A stock is strong when every part of the combs is densely covered with bees, and a surplus is found below unable to get admission, without any regard to the size of the hive, and all such stocks *will* defend themselves successfully against the attacks of the moth; but the question is, how can we always have our stocks in this strong condition? It is in using certain means which we have in our power, to promote the fecundity of the bees—to adapt the size of our hives to their natural increase, neither giving them too much, nor too little room, and so shaping that room, that the bees operate to the best advantage, in all the ramifications of their employment, and, above all, admitting a plenteous infusion of fresh air, that gives life and vigor to all animated nature. These things taken in connection, give the greatest possible increase of the bees, and produce a strong and healthy progeny, active and vigorous, that live out all their days, always showing full hives, with an abundance of stores, acting on the defensive with power and spirit—such are the bees that bid defiance to the moth. On the other hand, hives poorly adapted to the natural requirement of the bees, too large or too small, ventilated in the wrong place, or perhaps not at all, the bees weak and feeble in infancy, or in their early development, from the want of a pure atmosphere, left perhaps on a short allowance of winter food, which leaves the bees in a weak and feeble condition in the spring, from which they barely recover, thus diminishing their increase in a great degree, and becoming an easy prey to the moth—such are the stocks that are subject to become undermined by this insect. There are cases, however, in which the strongest stocks are suddenly weakened by *over-swarming*, and may be destroyed by the moth. This very seldom occurs. The only stock that I ever lost by the moth was in this way. It threw off three large swarms, and the last one was larger than the stock could bear. I did not notice it till too late to save them. The only remedy in such a case, is to return the swarm to the parent stock, as soon as hived, or at evening, when the condition of the parent hive can be readily seen. It is probable that a future swarm would not issue, and if one should, it is not probable that its numbers would endanger the parent stock. The mode of returning a swarm, is to place a table alongside of the bottom-board of the hive to receive the bees, and even therewith, touching the bottom-board; then place the swarm near the old hive, and raise the new hive a few inches from the table, and then bring it down dia-

gonally upon the table, with sufficient force to dislodge the bees, which will immediately take to the old hive. As soon as the bees are dislodged, draw your hive quickly to the farthest corner of the table, and lay it down upon its side, in order to allow such bees as remain inside, to escape. It is best to lower the front of the bottom-board of the old hive, before dislodging the swarm, an inch, at least, or the swarm would have difficulty in entering rapidly, and might cluster upon the outside, and in the morning take their flight.

The means to be used in order to have your bees able to defend themselves against the attacks of the moths, is nothing more nor less than the system of management, as defined in these numbers. I have kept my bees on this plan a certain number of years, during which time I have lost *one* stock by the moth, as before stated, and that was owing to excessive swarming. In the same length of time, one of my neighbors, who founded a colony of six hives, on the patent principle, with apparatus to prevent the entrance of the moth, *has lost every one of his stock!* Another neighbor with the same kind of hive, met with severe loss also. These, you understand, were hives patented as *proof against moths*, with small narrow tubes through which the bees enter, which it is contended the bees will successfully defend. Now, instead of closing up the bottoms of my hives, I leave the whole circumference exposed, as before stated, and my bees defend themselves successfully; and in order to do this, the bees must be placed in hives of a size that their natural increase will always keep full, at the season of the year that they are subject to the moth. Here we at once see the absolute necessity of studying the science of the *correct size of hives*; for there must be a *right* and a *wrong* side, and a *right shape* and a *wrong shape*. No one can suppose that a hive may either be large or small, short or long, and make no difference with his success; hence, if we must have a *certain* size, let us place that size as we find from experience that it should be. I find that hives 12 inches square in the clear, do better than larger or smaller ones, and for my reasons more fully, the reader is referred to vol. 5, pages 343-4 of this paper. I do not say that a variation of an inch or two either way would be a cause of unsuccess in all cases, but I am fully satisfied that more space than a *cubic foot* is superfluous, and for reasons before given, I confine it to a *square*.

But, aside from the foregoing, I think I may safely say, that without a correct knowledge of a proper *winter* management, all our efforts may avail nothing. By various experiments of heat and cold afforded to my bees, I find that there is no such thing as *freezing* bees to death; and the *colder* they are kept the better. By keeping the bees cool not half the number die during winter, and when the season of increase arrives, a few days will serve to fill the hives to overflowing, and they will generally keep so during the summer, and will be able to bid defiance to the moth.

In answer to the query of "Reviewer," how it happens, if hives must be no longer than wide, that bees flourish so well in hollow trees? I admit that bees will "flourish" to a certain extent in anything—in a flour barrel, or stove pipe, if you please; but

for the greatest increase, and the greatest product of honey, in a certain number of years, from a single swarm, we must not go to "hollow trees." In the case of "Reviewer," perhaps the stock had remained in the tree *ten* years, without ever having issued a swarm; now, what would have been the result if that swarm had been hived by an experienced apiarian?—*not less than one thousand swarms, and honey enough to load a ship, during the ten years.*

Ravenswood, November, 1846. T. B. MINER.

LETTERS FROM THE SOUTH.—No. 2.

THE time limited for my arrival at this place, allowed only of a brief visit to two plantations in my route. The first of these, belonging to Colonel Wade Hampton, is the largest, and one of the best managed estates in the South. It consists of several thousand acres of light upland, principally, sustaining a natural growth of pine and various species of oak; and some 2,000 or 3,000 acres of very fertile bottom lands, occupying the left bank of the Congaree, near Columbia. The characteristic hospitality of its gentlemanly and intelligent proprietor, demanded that my headquarters, while in the neighborhood, should be at his own mansion; and accordingly, after spending a part of the day in Columbia, I found his carriage waiting to convey myself and baggage to his delightful residence about four miles distant.

My attention was first directed to the arrangement of the grounds, buildings, &c., immediately adjoining the mansion. These are commodiously and tastefully arranged. The house is a large, elegant modern building, occupying the most elevated point, and commanding an extensive view of the Congaree and country far beyond it. This is flanked by various appropriate outbuildings; and on the declivity of the hill (and for the purpose of securing water for the aquatic fowls), at some distance is located the poultry-yard. The latter embraces several acres, and on its lower side is a pond, which is supplied by several pure springs, and is so arranged as to be drained at pleasure, for the purpose of securing entire cleanliness. The poultry-house, which contains a separate department for the larger and smaller birds, affords ample protection also against heat and storms, for the ducks and geese, and is well stocked with numerous specimens of some of the best varieties, including several wild turkeys. The enclosed buildings are well ventilated, and kept scrupulously clean by the daily removal of all the dirt. An extensive enclosure adjoining, was sown with southern rye, to yield a supply of green food for them through the winter. These arrangements, protection, ventilation, shade (for there were several trees in the yard in addition to the sheds), an abundance of pure water, gravel, green and other food, ensure almost perpetual health and thrift to the feathered tribes.

After breakfast, we mounted elegant thoroughbred saddle-horses, and rode about two miles to the mansion of the late General Hampton, now unoccupied, in the vicinity of which is kept a part of Col. Hampton's stud. This embraces numerous specimens of the best imported English horses, besides many of great merit, which he has bred himself. Col. H. was a large purchaser at the sale of the late

royal stud of William IV.; and Monarch and King William, two of the animals bought on that occasion, possess good size, fine forms, and are scarcely surpassed for reputation as breeders. Two of the mares procured at the same time, seemed to me to combine all that was necessary to perfection in blood stock; but I wish to add as a salvo to my judgment, that I am rather an amateur than a critical judge of such matters. A ride of another mile brought us to a village of laborers, surrounded by upland cotton fields, which, though perfectly cultivated, owing to the lightness of the soil, produced only a moderate crop. Passing these, we came to another settlement, where the principal buildings for the people on the plantation are located. These consist of a grain mill, cotton gins, and presses, all of which are driven by water power; extensive barns, store rooms for grain and cotton; sheds for wagons, harness, and farming utensils; piggeries, &c., &c. In addition to the above, is a neat and commodious building for the religious meetings of the slaves. A clear stream, which runs for miles on the estate, furnishes perpetual water power for a saw-mill about four miles above, and an adequate supply for the mill and all the machinery at this point. A short distance beyond these, brought us into the bottom lands on the Congaree, generally elevated above the highest rise of the river, where 800 acres of corn and 1,600 acres of cotton were cultivated in a single field. And here the hands were busily occupied in gathering the snowy crop, and the luxuriant corn, the ears of which are standing some 6 or 7 feet high, and around most of the stalks, the cow-pea clustered, with its long, pendent pods, containing from 16 to over 20 peas in each. As these are gathered they are loaded, and carried by four-mule teams to their appropriate places of deposit. The first to be ginned, pressed, and baled for market; and the last two, to be stored for future sale, or what is more usual, for consumption on the plantation.

Nothing could be more perfect than the cultivation of these various crops. Numerous ditches drained off all stagnant water, and an extensive embankment (underneath which, an aqueduct, carefully protected by gates, led off the surface water) effectually guarded the lowest of the land from the overflowing of the floods. While numerous graceful avenues and copses of shade trees are scattered over different parts of the plantation, and ornamental trees here and there, occupied this field, anything like brush or rubbish was effectually removed, and the useful vegetation alone covered the ground. This is not limited exclusively to the cultivated plants; for though everything like grass or weeds is rigidly excluded in the early stages of the crops, yet as these approach maturity, the thick netting of crab and various other grasses and plants, which are ever struggling for existence in this warm clime, are allowed to come forward and mature; and their growth furnishes forage for cattle and sheep during the winter, and an important addition to the vegetable manures for turning under and adding to the fertility of the soil. By intelligent planters, the cow-pea is usually sown among the corn in summer, and without materially diminishing the grain in any season, which in such as are dry and seethy, they decidedly improve by their

thick shade of vines and leaves. They yield from 10 to 25 bushels of peas, besides good forage for mules, cattle, and sheep. An average cotton crop on good uplands in South Carolina, is from 600 to 1,000 lbs.; and on bottom lands, 800 to 1,600 lbs. per acre, which yields about 25 per cent. of clean cotton. The seed constitutes about 70 per cent., and is useful for feeding to cattle; and when boiled it is good for swine, and even for cattle it is much improved by cooking. When pressed, it yields from 15 to 20 per cent. of very good oil; and the cake which is left affords excellent food for stock. Both the seed and cake are frequently used for manure. Most of the corn crops in the south are light, the thin uplands which have been considerably worn, often yielding less than 15 bushels per acre; but much of that grown by Col. Hampton on his hot soils, yields from 50 to 80 bushels, in addition to the cow-pea, or an occasional crop of pumpkins, which in some seasons grow in great profusion.

Though expecting to find much superior stock in the hands of so spirited and intelligent an agriculturist, I was surprised to see so large a herd of pure bred Durham cattle. Col. H. informed me that his father procured the breed as early as 1793, from Mr. Heaton, of Westchester county, N. Y.; and in addition to breeding the original stock pure, he has at different times incorporated various meritorious importations with it. A very valuable cow imported from England, was grazing among the herd; and his young bull, purchased a year since from Mr. Vail, of Troy (out of Lady Barrington), is destined to sustain the high character of his stock. There were also several very fine specimens of the Devons crossed with the Durhams. And yet, with this continued example of fine and successful breeding, for more than half a century, most South Carolina planters neglect to improve their stock with these valuable animals, entirely within their reach.

Col. H. has also a choice flock of long-woolled sheep, many individuals of which cannot be surpassed in the United States. These too he has bred for a long time, and finds them every way adapted to the soil and climate. The merits of the improved breeds, both of cattle and sheep, fattened on southern pastures, were afterwards practically illustrated at dinner, by a baron of beef and saddle of mutton, which would have reflected the highest credit on both Englands, whether New or Old.

The mules, of which about 80 are kept on the plantation, are generally of superior merit, and several recently purchased from Kentucky and Ohio, could not be exceeded for size, compactness, perfection of form, and hardiness. Good mules are worth from \$100 to \$130 each, a price at which they will yield a good profit to the breeder.

The sheep, together with the cattle, mules, and horses, which are not at work, are turned into the natural pastures in summer, and in addition to these, they have the run of the corn fields in winter, and without seeing any other shelter against the severest storms, than a thicket or hill-side, they thrive and fatten throughout the year. This condition is secured by the mildness of the climate, and the consequent continued growth of vegetation dur-

ing the entire winter. Swine fare indifferently on their wild pasturage, unless for a short time, after a plentiful harvest of mast. Many of the Berk shires in Col. H.'s pens were fine specimens of size and form, but he is more partial to the large white pigs you recently sent him from New York. The country and soil, which is generally dry and rolling, is admirably adapted to sheep, and it would seem to require only proper attention and the destruction of the innumerable hordes of dogs which infest the state, to secure this as one of the best wool-producing regions of the United States. The ewes are bred to drop their lambs in autumn, which in this hot climate is decidedly preferable to spring, as fresh grass is abundant here all winter. I regret that the limited time I had to devote to looking over Col. Hampton's superb plantation and its choice stock, precludes my giving anything more than the above crude and brief notice of it; for weeks might be profitably spent here in studying its details and admirable general management.

The whole country about the Congaree is one of the most eventful in our Revolutionary strife. It was here especially that Marion, the "*swamp fox*," and Sumpter, the "*game-cock*," as they were called, ferreted out their miscreant enemies, the Tories, or met their more open foes, the English regulars—in bold and successful warfare; and by their indomitable courage and skill, accomplished so much in finally expelling them from the country. It was here, too, the gallant Green, inferior to no other American officer that has ever lived, not excepting even Washington himself, for courageous attacks, or, if overpowered with numbers, for skilful retreat, earned un fading laurels for himself, and security for his suffering country. The site of Mrs. Mott's house, so long occupied as an English fort, or refuge for our enemies, and a terror to the surrounding country, but at last so adroitly captured by the Continentals under Marion, was pointed out to me, a few miles below Columbia, on a steep and elevated bank of the Congaree—an achievement that would have been impracticable, but for the patriotic sacrifice of the fair heroine in devoting her own splendid domicile, with its treasured household gods, to destruction, so as to drive out its sheltered inmates to certain capture or death, before the arrival of a large reinforcement which was close at hand. Mrs. Mott furnished the bow and arrows, with which flaming combustibles were shot upon the roof. This soon terminated in its entire destruction.

Columbia, the capital of the state, is beautifully situated on a commanding eminence, which overlooks the valley of the river for miles, and an almost illimitable prospect beyond. It embraces several public edifices, and a flourishing college of 200 students, under the charge of that eminent scholar, statesman, and patriot, the Hon. Wm. C. Preston, late Senator in Congress. A branch of the Charleston and Augusta railroad is extended to this place, and the cotton and other trade enjoyed by the citizens is important and lucrative; 20,000 bales, one-twentieth of the entire crop of the Union, was received here two years since, and the average receipts for the last ten years have been 107,000 bales.

R. L. ALLEN

New Orleans, Nov. 26th, 1846.

THE COTTON MOTH.

THE following observations were suggested by the very interesting article in the November No. of the *Agriculturist*, on the Destruction of the Cotton Crop by Insects. I now beg leave to offer them, hoping that they may throw some light on that part of the history of the insect of which the author professes himself ignorant.

Of the particular species to which he alludes, I know little more than is to be gained from dried specimens in my cabinet, but on referring to my journal, I find from observations made during the last ten years, that the development of moths and butterflies from the pupa, always depends on atmospheric influences; those, for instance, preserved in the pupa state during the winter, will be developed earlier or later in the spring, according to the warmth or coldness of the situation in which they may be placed; and those that become pupæ, during the early part of the summer, do not require more than five days to pass through the change, if the weather be hot and moist (dry heat is extremely unfavorable to the expansion of their limbs after their escape from the cocoon), while a second brood from eggs of these flies will remain in the pupa all winter should the weather be cold, but if warm, some will be developed even in mid-winter; these, of course, do no injury, as there is then no vegetation on which to deposit their eggs, and a moth seldom lives in the winged state more than from five to twelve days. In warm climates where vegetation is redundant and in a fit state to feed the young worms, they may be found in succession all the year. Should the summer be long, there will be two or three broods of those worms that feed on plants retaining their leaves for a long time, such as the willow trees, while there will be but one of those that feed on short-lived plants, such as the potato.

In June, 1840, I fed some of the larvæ of the butterfly (*Papilio asterias*), which I found on the wild carrot, changed to pupæ on the 12th of July, and on the 16th, the perfect flies were developed; from these another brood was raised, which remained in the pupa state until the following spring. In 1843 I raised three broods of the bee-moth (*Galleria cereana*), the larva of the first were procured from a hive. I placed a piece of the comb on which they were feeding under a bell-glass, these soon became pupæ, and in fourteen days changed to the moth; these in a short time deposited their eggs on the remaining wax, which in five or six days were hatched, and attained their full growth in three weeks; went through their changes and deposited their eggs on the fragments of wax that lay scattered around; the larvæ from these fed for a short time, but perished for want of food, having devoured not only all the wax that remained, but the bodies of the mother moths. A variety of the hairy caterpillar which Harris calls the yellow bear (*Arctia virginica*), perfects two broods in the Middle and Southern states, and sometimes attempts a third; but the summer being too short, most of them perish, though many hibernate during the winter. I have found the full-grown caterpillars alive and in search of food, during the mild wea-

ther of January, 1842, and February, '43, and yesterday (Nov. 12th) I gathered several from the field, intending, if possible, to keep them until spring, to ascertain their future history. Judging, therefore, from analogy, and the minute description given by Mr. Afleck, the history of the cotton-moth (*Noctua xyliana*) may be briefly this:—

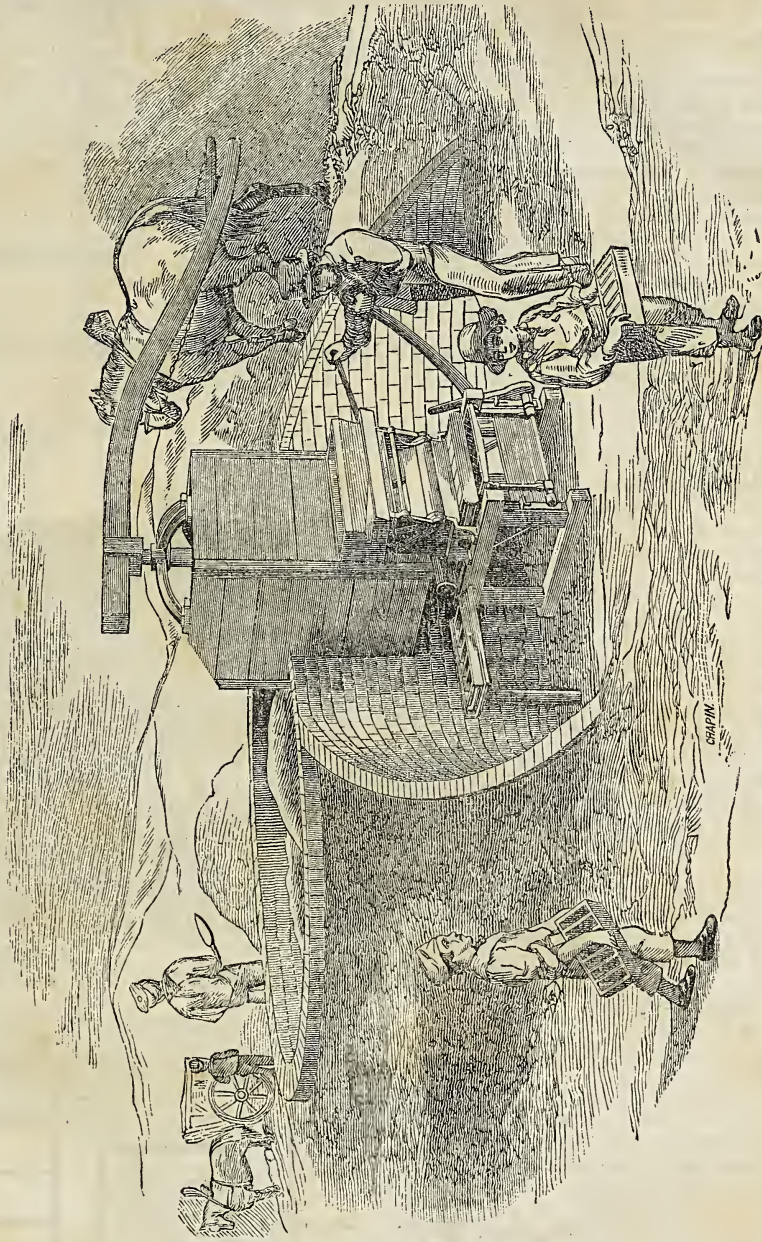
The moth appears in the spring, when the cotton plant is in a fit state to receive the eggs. She places these on the leaves of the plant to the number of from two to six hundred; these hatch in from two to five days, according to the weather. The young larvæ are very minute, but grow rapidly, attaining their full size of one and a half inches in from fourteen to twenty days, during which time, like their congeners, they moult every eight days. The difference in the color of the worms is owing to their moulting, as a slight change takes place after each skin is cast off. Their duration in the larva state is six weeks, in which time they feed voraciously; they then spin their cocoons, and remain in the pupa state a longer or shorter time, according to the season of the year. The moths that remain in the pupa until the following spring, will be those whose larvæ will destroy the summer's crop. Should the fall and winter be favorable to the premature development of the moth, the planters may be grateful, as it will be their greatest safeguard, unless they will gather and destroy the pupa.

Mr. Afleck states that the caterpillars frequently spin on the old plants. Would it not be well to gather and burn all thus infested? In Harris' book on Insects, you find that "in some parts of France and Belgium, the people are required by law to *echeniller* or un-caterpillar their gardens and orchards, and are punished by fine if they neglect the duty. Although we have not been so prudent and public spirited as to enact similar regulations, we might find it to our advantage to offer a bounty for their destruction, and though we should pay for them by the quart as we do our berries, we should be gainers in the end."

Now, suppose we calculate by the rule of proportion, if the moth from one pupa will produce six hundred eggs, how many will those from a quart?

Turkeys are voracious eaters, and feed and fatten well on the tobacco worm, why not on those of the cotton plant? M.

TO BOIL SALT MEAT TENDER.—Put the meat over the fire in cold water, and never suffer it to boil faster than a gentle simmer, or it will be hard and tough. When done, beef will separate easily from the bones—ham and tongue from the skin. A large shovelful of wood ashes may be put into the water in which ham or smoked tongue is to be boiled, and some hay at the bottom of the pot. Allow a quarter of an hour for every pound of ham. For corned ribs or plate piece of beef, when well boiled, take the bones out carefully, and put it into good shape by wrapping about it neatly, all the fat and loose hanging pieces; then put it between two pieces of thick planks, kept for the purpose, and press it until perfectly cold, with a weight, say fifty-six. It makes large smooth slices when cut, and at breakfast or lunch it is positively delicious.



HALL'S BRICK-MAKING MACHINE. — FIG. 2.

HALL'S BRICK-MAKING MACHINE.

THE engraving given above, represents a machine for making bricks, invented by Mr. Alfred Hall, late of Coxsackie, New York, and patented by him in Great Britain as well as in the United States. Its construction is so perfect that five men and a horse can make, with ease, 8,000 bricks in a day, and place them on the drying-floor. It is coming into extensive use both in England and in this country, particularly in Rochester and Coxsackie, N. Y., and in Charlestown, Massachusetts.

No machines are sold except with a right to use them in a specified section, generally within the limits of a county; although exclusive rights for states or larger divisions are sold when wanted.

As the method of making bricks at the North is so very different from that practised at the South, it is advisable for Southern brick-makers to employ a man well skilled in the business from the North, to put them in operation, should they ever have occasion to purchase these machines.

We are authorized to fit up these machines expressly for the South, accompanied by a skilful agent to put them in order, who will be able to remain sufficiently long to instruct an ingenious and tractable person in the art of its use. The price of each machine, will be \$250, including the right of the county in which it is to be put up, consisting of a grinding mill, with the moulding machine attached, a set of five moulds and five apartments, and a No. 40 copper-wire sieve, all complete.

To show the extent and value of its use, in one town, at least, we insert the following extract of a letter addressed to T. B. Wakeman, Corresponding Secretary of the American Institute, from Messrs. Hubbell and Abbott, who have been engaged in the brick-making business for twenty years.

"This machine we have used for the last three years, to our entire satisfaction; it is simple in its

construction, easily kept in order, and can be worked by men of the most ordinary capacity, moulding with ease, from ten to twelve thousand per day, better bricks than can be moulded by hand or any other machine. We have had thirty of them in operation for the last two years, using fifteen of them alternate days, making each year about 15,000,000 bricks, and during that time the expense of repairing the thirty machines has not amounted to \$10. This is not an exaggerated statement, but the plain simple truth, such as we are willing to give in person to any one who wishes more particular information upon the subject, and will favor us with a call.

"P. HUBBELL.

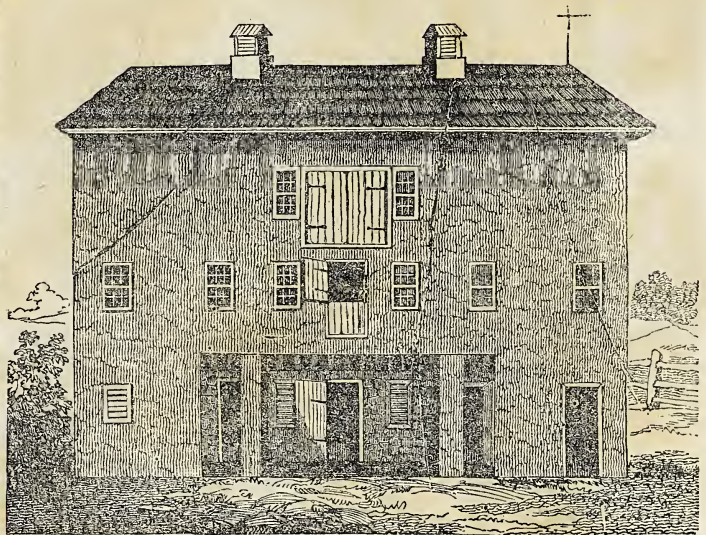
"ALMON ABBOTT."

Charlestown, Mass., Dec. 9th, 1846.

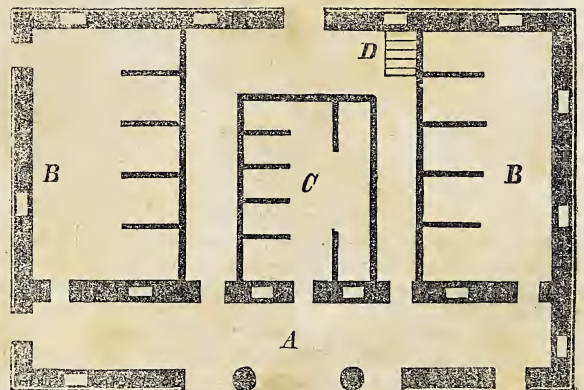
A PENNSYLVANIA BARN.

THE high degree of perfection which agriculture has attained in Pennsylvania, compared with some other portions of the Union, has been commented upon by travellers from Europe as well as from every section of our country. Perhaps there is no particular feature which more distinctly indicates that perfection than the farm-buildings, certainly there is nothing which more forcibly attracts the stranger's eye on entering within the bounds of that state, where he is at once assured that no niggardly regard to expenditure for useful purposes, influences a Pennsylvania farmer; though his own dwelling be of an unpretending character, the means for housing his crops and sheltering his flocks, are on an ample scale. Poor indeed would he judge that economy to be, which permitted a sheaf to suffer injury for want of adequate protection.

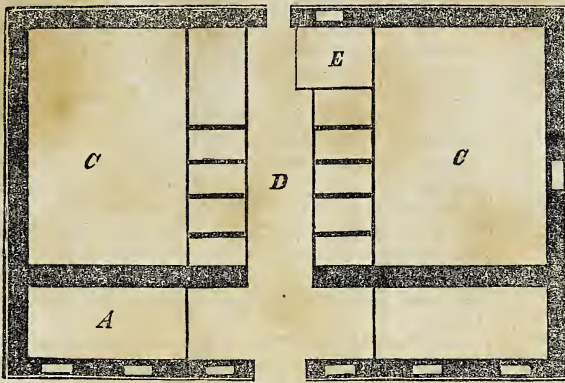
The subjoined drawings illustrate a barn of moderate size, but judicious construction, yielding as much advantage as it is possible to possess within the same space. Its dimensions are, 60 by 40 feet, with an elevation of 30 feet to the eaves. It is on the estate of James P. Hutchinson, Esq., Montgomery county, nine miles from Philadelphia. The barn-yard is supplied with water by Montgolfier's hydraulic ram, from a reservoir 900 feet distant; the supply is 800 gallons per day; the dwelling-house is also supplied by the same power (2,000 gallons per day). The elevation from the ram to the barn is 40 feet perpendicular height; these items are stated to show the great power of this



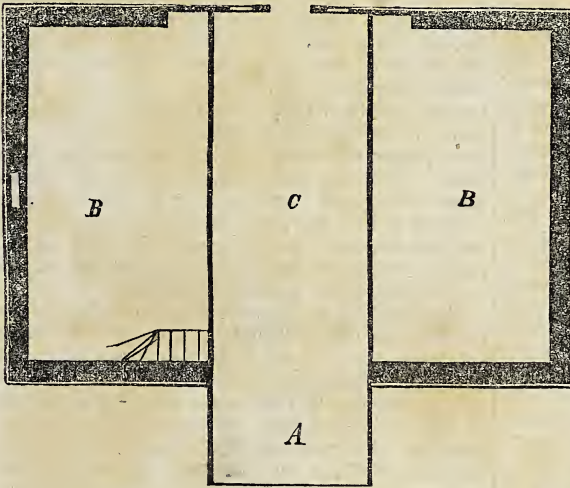
FRONT ELEVATION.—FIG. 3.



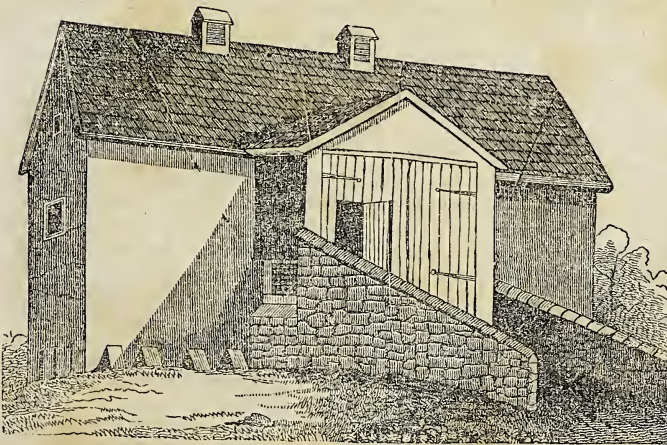
GROUND, OR LOWER FLOOR.—FIG. 4.



SECOND FLOOR.—FIG. 5.



THIRD FLOOR.—FIG. 6.



REAR ELEVATION.—FIG. 7.

simple and comparatively cheap invention. It is prepared by Mr. H. P. M. Birkinbine, of Philadelphia; to whom those interested can address themselves.

Fig. 3 exhibits a front view of the barn, the stable-doors opening into the barn-yard, in which there is a constant stream of water from the ram; the yard which is of sufficient space for cattle to take air in winter, and for other purposes, is flanked by sheds, &c., and substantially enclosed by a stone wall.

Fig. 4 represents the ground or lower floor; A, is the "overshot," 8 feet high; B B, horse stables; C, cow stables, 7 stalls; D, stairway to upper floor. There are besides ample passages and elbow-room for feeding, &c.

Fig. 5 is a plan of the second floor; 8 feet head-room; A, harness-room, 8 by 20 feet; B, tool-room, 8 by 20 feet; C C, hay-mows, each 20 by 26 feet; D, granary, divided into bins, with passage through the centre; E, stairway.

Fig. 6 represents the third floor; A, is the wagon-way or entrance, as shown in fig. 7; B B, upper part of the hay-mows (marked C C, on second floor); C, threshing-floor, 47 by 15 feet 8 inches.

Fig. 7 is a rear view, showing the wagon-drive and entrance to what appears as the third story or floor when viewing the building in front; it is reached by a gradual rise in the ground from front to rear, and by an artificial elevation of the soil as is shown in the passage between the abutments, so as to form a gradual ascent, easily surmounted by a heavily-laden wagon; on the apex of the roof are two ventilators which serve a double purpose, admitting light and permitting the escape of foul air. The whole building, is besides, thoroughly ventilated by doors and windows suitably placed. On the whole, we can safely commend this as an admirably constructed barn, and worthy of imitation. It will be perceived that by the arrangement adopted (now commonly followed), the hay and grain when unladen from the wagon, are cast down, rather than pitched upwards, an advantage of the greatest moment, at a season when time and help are of double value. The hay and fodder reach the feeding floor by means of funnels or conductors, which carry it to convenient points. The harness-room, and tool-room, should be on the first floor, the space occupied by them on the second, would be serviceable for other purposes.

A natural inquiry presents itself, the cost? That must of course depend on the expense of materials, the price of labor, and the proportion of work by hauling, quarrying stone, hewing timber, &c., which

the proprietor himself may be able to perform ; also the kind of material for the superstructure, whether it be wood, stone, or brick. In view of all these circumstances, it is inexpedient to attempt a statement ; the prudent farmer will obtain estimates of all particulars, carefully prepared by responsible mechanics, and any estimate of ours might tend rather to his injury than benefit. The barn of Mr. Hutchinson is of stone, rough-cast ; one of less cost (and in one respect better, because dryer) would be of frame, on a basement of stone extending to the floor of the second story.

THE TREES OF AMERICA.

THE following letter was written in answer to some strictures which appeared in the October No. of the *Horticulturist*, on the *Trees of America* ; but the editor, Mr. Downing, having thus far deferred publishing it in his periodical, Mr. Browne solicits a place for it in our columns.

New York, Oct. 15, 1846.

SIR:—In looking over the review of my work on the “*Trees of America*,” in the October number of the *Horticulturist*, I observed several errors, probably caused by oversight, and one or two passages that would have a tendency to mislead the public, which you will oblige me by correcting.

After making comparative extracts from Loudon's *Arboretum* and my work, you state that “The character of nearly the whole volume is, precisely similar to our quotation—that is to say, instead of using his own language to describe trees, their properties, characters, etc., Mr. Browne has paid Mr. Loudon the compliment of using his, though he has omitted, in many cases, half or two-thirds of the matter given in the *Arboretum*.” That “Mr. Loudon's name is scarcely mentioned in the body of the work, though the author acknowledges in the preface that he is ‘particularly indebted to him.’” If you will attentively compare the “*Sylva Americana*,” a portion of which is a translation of “*L'Histoire des Arbres Forestiers de l'Amerique Septentrionale*,” with the “*Arboretum*,” you will find that Mr. Loudon has often paid M. Michaux and myself the compliment of using our language instead of *his* own. And by further examining my last work, the “*Trees of America*,” instead of finding “Mr. Loudon's name scarcely mentioned in the body of the work,” you will discover that it is inserted more than one hundred times. All of us, who knew Mr. Loudon, can fully appreciate his talents, his industry, and the immense benefits he has conferred upon mankind by his works ; yet there is much of the matter contained in his “*Arboretum*” that is erroneous, uninteresting, or ill adapted to the climate and modes of culture of the United States ; and, besides, there are many important omissions in his work, which probably could not be given, for the want of information, that have been supplied by me.

You also state that you “find *two trees* described, which are not contained in Loudon's *Arboretum*, viz. :—*Bursera gummifera*, a native of the West Indies, and *Ilex paraguariensis*, a native of South America. Neither of them will grow in gardens in this country without protection.” In justice to your readers as well as to the publishers and myself, could you not with propriety have informed

them that there are at least *fifty trees* described in my work, which are not even mentioned by Mr. Loudon at all ? Again, could you not, with equal justice and propriety, have told them that more than one-fourth of my work is devoted to edible fruits and nuts, which, for reasons best known to yourself, are scarcely mentioned in your review ? Furthermore, do I not plainly state on p. 189, that *Bursera gummifera* is found in Florida, and particularize where the trees are still growing ? And do I not assert, also, on p. 173, that *Ilex paraguariensis* is adapted to the middle and southern sections of the Union, and warmly recommend it to all who have proper conveniences for cultivating it ?

You remark that you “do not know that Mr. Browne makes any pretension to being a *practical* arboriculturist. If he did, we should find great fault with him in many cases ; for example, he does not tell us, while praising loudly the European Holly for hedges, and recommending its general use, the lamentable truth that it will not stand the winter of this climate under ordinary circumstances, north of Philadelphia.” Here I beg leave to refer you to p. 163, where I explicitly state, that, owing to the severity of our climate, in winter, this tree appears not to have thrived north of the Potomac. Your complaint in regard to the pomegranate is equally ungrounded, as you will perceive in p. 340, that at Paris and Versailles, it will not bear exposure to the open air too early in the spring, which plainly indicates that it is not adapted to the colder regions of the United States.

After saying, as you do, that you welcome this contribution of mine, to the gardening literature of this country, with pleasure, that everything that will help to diffuse this information is well for our people, and that this volume conveys a great deal of information in a moderate compass, etc., I cannot conceive how you can so strongly recommend Loudon's “*Trees and Shrubs*,” in preference to any other work of its kind, when it is well known that it contains much that is inapplicable to our climate, and is not suited to the taste and economy of our inhabitants.

I thank you for the suggestions which you have been pleased to make in regard to my future volume, and as far as my means will allow, no pains shall be spared to render this work all that you desire.

Respectfully, D. J. BROWNE.

To A. J. DOWNING, Esq.

Since the above was written, a notice of my work has appeared in Silliman's *Journal*, said to be written by Professor GRAY, of Harvard University, who, it would seem from the notice, is of a contrary opinion to Mr. DOWNING, in regard to Loudon's work ; but he cannot be considered as very “high authority,” either in geography and history, or physiology and botany, in supposing that Florida is situated 500 miles from the point where Columbus first landed in America,—that persons who have long been at sea are not possessed with more acute organs of smell, and can even perceive the fragrance from the land at the distance of forty miles, or to be ignorant of the facts that the sassafras-tree formerly occurred in abundance, on the Bahama Islands, and never flowers in the month of October.

D. J. B.

GRINDING CORN.

It has been truly said, that "No kind of grain is actually spoiled by grinding too fine, except Indian corn," although wheat is somewhat injured. But good corn bread, hommony, mush, and various other dishes cannot be made of flour ground too fine. For all ordinary purposes, the common mill employed for grinding wheat, answers equally well for grinding maize. When it is required to grind the corn coarse, it is necessary only to elevate the uppermost stone and increase its speed; or to depress the stone and diminish its velocity to grind it fine. In general, the grits, or larger parts of the meal, should vary from one-fourth the size of a grain of mustard to that of a grain of rice, according to the uses to which they are to be applied. For very exact and special kinds of meal the *Kibbling-mill* is preferable, in many respects, as the size and uniformity of the grits can be regulated at pleasure by an indifferent hand; whereas, in the common mill for grinding wheat, their degree of fineness or coarseness depends entirely on the judgment and skill of the miller by regulating the position and velocity of the uppermost stone, and a due attention to feeding in the grain.

A kibbling-mill consists of "a small iron cylinder, usually about 8 or 9 inches wide, and 6 inches in diameter, tapering slightly to one end, and fluted on the inside. Within this a barrel of the same form, but of a less size, and fluted on the outside, revolves by the turning of a spindle on which it is fixed. The meal is rendered finer or coarser in proportion as the working barrel is set nearer to, or farther from, the small end. This mill is made entirely of iron and steel, and is usually attached to a post. It is provided with a hopper, and is worked by a crank fixed at one end of the spindle, while a fly-wheel revolves at the other. It is used for beans, peas, and other pulse; for malt and various kinds of grain, and is a very useful and ingenious contrivance, but requires care in its adjustment and general management." B.

THE STRAWBERRY QUESTION.

THE letter of Wm. R. Prince, on the strawberry question, is clear and to the point, and will I trust aid in convincing Mr. Downing of his error, to which he has been led by his gardener, who appears to be a man of intelligence. He is, I presume from England; and it will be a difficult task to convince even the most intelligent European horticulturists, that their best botanists have a new lesson to learn from an illiterate German woman. There is one point, in which Mr. Prince will discover he is in error, after a further examination of what he calls plants of the *perfect* character. He says, "Plants of the perfect character sometimes produce a few of their earliest and latest blossoms so weak, as to be without *stamens*, or with very imperfect ones," &c. From this cause, he says a few of the blossoms fail to produce fruit. I deny the existence of any plant of the *perfect* character, that will on an average produce half a crop of large sized, perfect fruit. I now speak of the Scarlet and Hantbois varieties. Where the blossom is partially perfect in both organs, the blossoms that fail to pro-

duce perfect fruit, are owing to a defect not in the *male*, but in the *female* organs. If the defects were in the male organs, the pistils would find kind neighbors in the neighboring blossoms, to supply their wants. I wish he would furnish us with a list of his *perfect* plants. Would he follow Mr. Downing, and name the Swainstone, Ross Phoenix, and some others, as of this class? I have given them all a thorough trial, and not one of them will average one-third of a crop of perfect fruit. The \$500 I have offered for such a plant, is at Mr. Prince's service, as soon as he can produce it. I have raised thousands from seed, and generally, about one-half are wholly defective in the female organs. A few are partially perfect in both organs, say one in a hundred. But I have never raised one possessed of both organs, that would average one-third of a crop. Never one, worthy of cultivation for its fruit. I have never met with more than one variety, that separate from all others, will bear a full crop. It is the Duke of Kent. But a portion of the blossoms are defective in the male organs, and depend on the neighboring perfect blossoms. The fruit is small. If "weakness or exhaustion," would cause *perfect* blossoms, to bear no fruit, I would ask Mr. Prince, why it is, that the Hovey's Seedling, when fully exposed to the sun and air, with a staminate near, would not fail in one blossom out of a thousand, to bear a perfect fruit, unless killed by frost.

My Champagne vault and house are nearly finished, and I have four applicants who profess to be masters of the art of manufacturing Mosseaux wine. I only wait for their credentials, to make a selection, when the manufacture will be commenced. All will depend on the skill of the person selected, and I must not decide too hastily.

N. LONGWORTH.

Cincinnati, Ohio, Dec. 10th, 1846.

EXPERIMENT OF MANURES ON CORN.

WITH this I send you the statement of my experiments with several different manures on Indian corn the past season. You may rely upon its having been carefully made; and the result may be considered as showing the value of each kind for this particular crop, after taking into consideration the peculiarities of soil and season. The first is a sandy loam, and probably requires ashes more than any other manure. The season was excessively wet, which may have favored the horse manure.

The quantities, as you will see, were not regulated by equal values; but as much of each was used as would be of service without the risk of injury. The planting was done on the 5th of May, as follows:—Hills, 3 ft. 9 inches apart, with 5 grains in each; for the horse manure the ground was slightly excavated for the hills, manure put in and covered, and the corn planted on the top of it; all the other manures, except the Ichaboe guano, were well mixed with the soil about the hills, care being taken not to let the grain come in contact with the guano or poudrette. The Ichaboe guano was not put on until July, when the corn presented a yellow and sickly appearance, whilst the others had a fine growth of twice the size—consequently its full value is not known; but its value applied in this way,

may be seen by comparison with that which had nothing. The corn was husked November 5th, and each parcel weighed; 74 pounds of the ears gave, when shelled, one bushel of corn weighing 60 lbs.

	Quantity per hill.	Quantity per acre.	Cost.	Expense of Lab'r & applying Seed.	Total expense.	Produce in lbs.	Prod. in bush.	Corn worth.	Stalks worth.	Total value.	Profit.
Horse Manure.....	2 1-2 quarts.	245 bushels.	70 cts. per 14 bush.	\$3.25	\$32.60	6,196	79 1-2	\$59.62	\$4.00	\$63.62	\$31.02
Ashes.....	1 pint.	48 1-2 bush.	" "	1.25	4.88	4,882	62 1-2	46.87	4.00	50.87	25.58
Peruvian Guano.....	1-6th of a pint.	303 lbs.	" lb.	0.50	10.12	26.71	4,492	57 1-2	4.00	47.02	20.31
Pondrette.....	24 bush. 6 qts.	" bbl.	" bbl.	0.50	10.12	26.69	3,330	42 1-2	3.00	34.87	8.18
Hen-house Manure.....	1 pint.	48 1-2 bush.	15 cts.	1.25	10.12	26.63	3,610	46 1-2	3.87	37.87	12.24
Ichaboe Guano.....	1-2 gill.	350 lbs.	" lb.	0.50	10.12	24.12	3,795	48 1-2	3.50	39.87	15.75
Urine.....				1.25	10.12	23.37	3,098	39 1-2	2.63	32.62	9.35
Nothing.....					10.12	17.12	2,478	31 1-2	2.50	26.12	9.00

All the manures are calculated as being on the ground, those having long distances to cart can easily regulate the difference accordingly as they are more or less bulky.

The corn is valued at 75 cents per bushel, with 5 per cent. deducted for shrinkage. The cobs pay for shelling in their value to me as *fire-wood*.

Labor is reckoned at 75 cents per day for a man, and \$1.75 for team. The quantities given per hill are not exact, but as near as can well be ascertained.

To make up the total expense in the sixth column, \$7 per acre is added for interest on the value of the land and taxes.

In an experiment I made last year, urine proved more valuable than horse manure, which I attribute to its being unusually dry that season. I mention this fact merely to show, that a difference of seasons—as well as difference of soil or climate—will invariably have a greater or less influence on our experiments; we should therefore be cautious how we draw *general* conclusions from even a series, much less a single experiment.

Oyster Bay, Long Island, Dec. 1st, 1846.

DANIEL K. YOUNGS.

MORE FACTS ABOUT THE PAULOWNIA IMPERIALIS.

We were among the first to introduce the Paulownia imperialis into this country, having received it the same year as the persons you refer to in your December number. We have gone, however, more extensively into its propagation, than others, and have now one plot containing 4,000 trees, 8 to 10 feet in height, and five older trees that will probably bloom the ensuing spring. We measured some leaves of extraordinary vigor, that were 32 inches in diameter; but, on older trees, the foliage is of much less dimensions. It is rather singular, that in a scientific description of this tree published in a Paris Horticultural work, the circumstance of its developing flower-buds in the autumn preceding their spring expansion, is commented upon as a *striking peculiarity*, when, in point of fact, this *peculiarity* applies to very many of the trees and shrubs introduced from the same region, and would almost seem to be a general characteristic of Japan and Chinese trees. We will instance the Camellia japonica, Magnolia obovata, gracilis, and conspicua, Cydonia japonica, and others. We feel well assured that the Paulownia is destined to become the pride of our avenues and lawns, and it will be extensively planted in the streets of our cities, as it not only imparts the most ample shade, but cheers us with its brilliant and enlivening display of flowers at the opening of spring.

WM. R. PRINCE & Co.

Flushing, Long Island, December 15th, 1846.

SUSQUEHANNAH AGRICULTURAL SOCIETY.

A SHORT time ago, I received a newspaper from Montrose, a flourishing little town in the northern part of Pennsylvania, containing a spirited account of the proceedings of the Susquehanna County Agricultural Society; and their first Annual Fair and Cattle Show. This society is yet in its infancy, but it must and will succeed; for the leading members are reading and thinking men, of intelligence and education, and good practical farmers, yet willing to make experiments, and always ready to communicate the results for the benefit of their neighbors, either as examples or as warnings; and encouraging among themselves a noble emulation to achieve what others have succeeded in accomplishing.

Many premiums were awarded, which, after due acknowledgments, were returned as donations to the treasury, in consideration of the low state of the funds of the society; an example well worthy of imitation. There is a good spirit prevailing abroad among our farmers, throughout the length and breadth of our glorious land, encouraging a desire for improvement, and a growing willingness to be benefited by the experience of others, that proves the "march of mind" to be something more substantial than a philanthropic theory. The silly prejudice against what is sneeringly called book-farming, that has hung like a black cloud, obscuring our mental vision, is fast fading away before the light of knowledge, now so widely disseminated by the agricultural journals, that are finding their way steadily though slowly, to every fire-side—and with their pages stored with valuable information, and the questions of *intelligent ignorance*, on a thousand subjects inseparably connected with the farming interest—make the

chief reading of a large proportion of the people of the rural districts, far removed from our large cities, whence they emanate.

That the thirst for knowledge, and the spirit of inquiry once fairly awakened, will not soon be lulled to rest, needs no other proof than is evident in the rapidly increasing number of agricultural and horticultural societies, that are already established or proposed, and nearly ready to be put in active operation in places where but a few years ago, the idea, if it ever entered the aspiring mind of some enterprising man, was hopelessly laid aside as soon as formed, as if it were a dream of Utopia—or, if some visionary enthusiast ventured in a moment of unguarded confidence, to whisper his hopes of such a scheme being realized, the sneering laugh soon obliged him to acknowledge there was no reasonable prospect of its accomplishment. Among these unbelievers were men who are now arousing from the sleep of ages—men who have hitherto opposed “innovations”—whose progress in the arts and improvements of farming has been “a caution to a snail,”—whose only answer to the strongest recommendation of a better plow, or new labor-saving machine was, “the old kind was good enough for my father, and it is good enough for me.” These men are now standing on their feet, more than half awake; *taking* and *reading* some Farmer's Journal, and talking and busting about getting up an Agricultural Society. Success attend them!

AMERICANUS.

BRITISH AND IRISH FLAX CULTURE.—No. 3.

Pulling.—When the plant is arrived at its growth, and is in full blossom, which in common seasons will be about the beginning of July (a few weeks later in the northern parts of the United States), it is fit to be pulled, if the grower has a greater regard to the produce of the stalk than to the seed. However, it is a common practice to injure the whole crop for the sake of the seed; and to let it remain till the seed begins to ripen, so as to have both flax and seed. In this case the land suffers greatly, for flax seeded is a great impoverisher; but if pulled whilst in blossom, is an excellent preparative for turnips, which should always follow a flax crop instead of wheat. The great reason why the Irish, and, indeed, most foreign flax, is finer than the English, is because they pull it early, and sow particular spots purposely for seed.

In order to determine when the flax is ready for pulling, try it every day, when approaching to maturity, by cutting the *ripest* capsule, on an average stock, across (horizontally), and when the seeds have changed from the white milky substance, which they first show, to a greenish color, pretty firm, then is the time to pull. The old prejudice, in favor of *much* ripening, is most injurious, even as regards quantity; and the usual test of the stalk stripping at the root, and turning yellow, should not be depended on. Where there is one man that pulls too green, five hundred over-ripen.

In some parts of Ireland, where flax is raised for cambric and fine lawn, the lint is pulled as soon as the seed is formed, or a few days after it is out of bloom, before the stalks begin to turn yellow. If any be coarser than the rest it is kept separate.

Every handful, when pulled, is laid upon brush-wood, previously adjusted in the field, a little above the ground, by means of forked sticks and poles, where it is suffered to remain for four or five hours to dry, if the weather be fine. It is then put into a barn at night, and spread out during four or five days, taking care that it get no rain, which would cause it to turn black. If it get wet, it is better to leave it on the grass till dry, than to house it while wet. Each bundle is either opened when in the barn, or made very loose, in order to prevent it from heating.

It may be further observed, that although it is of much importance, yet it very seldom happens that much attention is bestowed to separate the different sorts of flax from each other, in pulling the crops. In most fields there are varieties of soils; of course, some parts of a field will produce fine flax, others coarse; some long and some short; in a word, crops of different lengths and qualities. It cannot be supposed that all these sorts of flax will undergo an equal degree of watering, grassing, breaking, and heckling, without sustaining great injury. Therefore, when flax of various qualities is promiscuously mixed together in pulling, it is impossible to prevent some part of it from being lost in the after-management; a loss which might be avoided with a small share of attention and some additional trouble when the crop is pulled.—*Condensed from Warnes' Treatise.*

RECIPE FOR COLORING GREEN.—For ten or twelve pounds of the material you wish to color, take one ounce of indigo and one pound of oil of vitriol, stirring it for half an hour in an earthen vessel—let it stand twenty-four hours. Make a strong decoction of equal parts, of the bark of hickory and black oak, with water enough to wet ten or twelve pounds of material to be colored; to this add one pound of alum, and strain it through a thick bag; place it over the fire, and when nearly boiling, add the liquid blue, then let it stand twenty minutes, and strain it well. Should any sediment remain, another straining will be necessary—then put in your yarn dry, stir it for a few minutes over the fire, and after ten minutes airing, rinse it well in cold water. The stronger the yellow dye, the darker will be the green.

ESTIMATION OF AGRICULTURE BY THE ANCIENTS.—Agriculture, says Socrates, is an employment the most worthy the application of man, the most ancient and the most suitable to his nature; it is the common nurse of all persons, in every age and condition of life; it is the source of health, strength, plenty, and riches; and of a thousand sober delights and honest pleasures. It is the mistress and school of sobriety, temperance, justice, religion, and, in short, of all virtues, civil and military.

ASHES TEA, prescribed by Dr. Physic for indigestion, one wine-glassful to be taken a quarter of an hour after dinner. Put a quart of sifted hickory ashes and a tea-cupful of soot into a jug, and pour a gallon of cold water on them. Stir the mixture frequently for three days, and then let it stand until perfectly clear; then bottle and cork it tight.

SHOW OF THE QUEENS COUNTY AGRICULTURAL SOCIETY.

THE article under this head, vol. 5, p. 333 of the *Agriculturist*, after noticing in very complimentary terms the *Temple of Flora*, erected in the centre of the tent appropriated to the exhibition of fruits, flowers, &c., states "it was the handiwork of the ladies of Flushing, and did them great credit;" and that "thousands of choice flowers were culled to adorn the temple, principally from the gardens of Messrs. Winter & Co.; but Flushing is a town of flowers, and many of the private gardens contributed to form the temple and the pretty pyramids and bouquets which surrounded it." On that, as on all previous similar occasions, the ladies of Flushing rendered most efficient service, and exhibited their taste and skill in the general decoration of the place of exhibition, towards which many of the private gardens liberally contributed; but the Temple of Flora so flatteringly noticed, was designed by ourselves, and erected under our supervision *exclusively by the workmen in our employ*; and every flower used in its decoration, including those comprised in the sixteen large bouquets which surrounded the dome, was culled from our own premises, the ancient and well-known Linnæan Botanic Garden and Nursery of the late William Prince. The Temple, which was probably the largest, and in labor and materials the most expensive, single floral ornament ever exhibited on a similar occasion, (being about 26 feet in circumference and 18 feet high), together with a very large additional supply of flowers, we contributed towards the general decoration of the place of exhibition; and further contributed, as exhibitors, several stands of flowers, and two masses of pyramids, each from 4 to 5 feet high, comprising in the whole several hundred varieties.

WINTER & CO.

Flushing, L. I., Nov. 16th, 1846.

CULTIVATION OF FRUIT-TREES.

A CORRESPONDENT in your January number vol. 5, cautions gardeners against transplanting trees while the sap is in circulation, as it cannot then be done without the risk of injuring them seriously. Allow me to ask a few plain questions on this, and kindred subjects of equal importance connected with the cultivation of fruit-trees, which is much less studied or understood than it ought to be, even by those who profess it, and make the fruit a means of profit.

Are deciduous trees, or those which lose their leaves annually, moved more successfully in autumn or spring? and why? How are ignorant cultivators to know when a tree or shrub is in a proper state to be moved without damage?

What season is best for transplanting evergreen trees? (a)

Should the roots of trees ever be trimmed, as is the practice of many gardeners, unless where they are broken, or bruised in taking out of the ground? (b)

Should trees be *headed down*, or trimmed at all, when they are first removed, or is it best to wait until they have rooted well? (c)

Is it best to trim trees and hedges in spring, or in autumn? and why? (d)

I have been told that experienced nurserymen

remove evergreens two or even three times before they are placed where they are to remain permanently. Is this a good practice, and what is the philosophy of it? (e)

Is there any method known by which trees can be prevented from throwing up suckers—whereby we can be spared the torment of having borders, walks, and grass-plots, disfigured by these pests, spoiling their beauty, and never allowing us to rest from our labors? (f)

I have heard it asserted, that when an apple or pear tree does not bear well it can be made to do so by digging around it, two or three feet from the trunk of the tree, and cutting off the ends of all the horizontal roots. Is this a well ascertained fact? (g)

What kind of manure is best for apple, pear, and plum trees, and the best time and manner of applying it? (h)

Is it true that a barren tree may be made fruitful by cutting a ring of bark two or three inches wide, entirely out? Has it any good effect, and if so, how, and at what season should the operation be performed? (i)

I had best stop now, for I came fearfully near asking a question about the management of peach trees! "Heaven bless the mark!" I shall be careful of broaching a subject so prolific of disputes, whether it is of peaches or not. It is a sore one to me, for I have had some little experience in them, and in the vile *varmints* that infest their roots, and the equally unmanageable *yellows* that attack the branches. Being a very humble-minded man, and well knowing that I was ignorant of every mode of treatment likely to succeed, I took everybody's advice, and, as may be anticipated, killed them all—and out of pure kindness too. I do not like to speak ill of any one—and therefore say no more—but I have taken a final leave of the whole—trees, worms, and yellows, together, and buy my peaches.

AN AMATEUR.

(a) Much has been written respecting the proper season for transplanting trees—summer and autumn for evergreens, and spring or mild weather in winter for deciduous trees. The principle which justifies these practices, is, that all plants whatever, with few exceptions, are most safely removed when they are in a comparatively dormant state, and when the weather is temperate, and the air moist and still, rather than dry and in motion. As it is known that the greatest degree of torpidity in any plant exists a short time before it begins to grow or push out shoots, late in winter or early in spring, is regarded as the best time for transplanting. The chief difference to be regarded between evergreens and deciduous trees, is that, from the circumstance of the former being at no time, whatever, in a completely dormant state, they may be removed at any time, in winter, spring, or autumn, when the weather will least affect their fibrous roots and leaves by evaporation.

(b) Whenever a tree has a tendency to run too much to branches, pruning at the roots may be advantageously performed, as the size and symmetry of its head may be preserved without mutilating or destroying a favorite branch. Besides, another advantage may sometimes be derived by skilfully wounding the roots in order to provoke young

fibres to appear, which will give increased vigor and activity to the tree.

(c) In a moist climate, young trees, in general, which have been two or three times transplanted in the nurseries, may be removed to their final situations, without heading down; but in a hot, arid climate, attended with a consequent and increased evaporation from the leaves, they are more liable to be killed, when transplanted with all their branches on. In heading down a tree, particularly if it be large, a corresponding advantage may be derived by trimming off a portion of the roots. The branches should not be cut off close to the main forks, or the stem, but should be left a foot or more in length, on old trees, and sufficiently long on young ones, to contain three or four eyes, and in both cases they should be cut off in an oblique or slanting direction. If the climate be dry, water should be regularly supplied to the roots of the trees during the first summer in order to make them grow more freely; but afterwards, very little attention will be required, except to encourage the leading shoots, and shorten in the lateral branches, if necessary, so as to encourage the tree to assume the desired form.

(d) The proper season for pruning most kinds of deciduous-leaved trees is about midsummer, or about the time the downward motion of the sap commences, and when a more perfect cicatrization or healing over of the wounded parts take place, than when pruned in fall, winter, or spring. The best time, however, for pruning plums, peaches, and other stone fruits, is considered to be somewhat later, or just before the shedding of their leaves.

(e) Evergreens, as well as many other trees, are more successfully removed by leaving a ball of earth about their roots; and by frequently exciting or carefully bruising their roots, either when standing, or by removal, new fibres will shoot out, and consequently afford an increased activity to the branches and trunk.

(f) If the roots of seedling trees of almost any kind are kept free from bruises or mutilation, they seldom throw up shoots or suckers; but trees which have been propagated by cuttings, and even in some instances by layers, are very liable to throw up sprouts for a considerable distance around, particularly when provoked by the spade or plow. We know of no better remedy for the springing up of these shoots, than to pare them off close to the roots in the month of August, at which time the wound may heal, and prevent others from springing forth.

(g) It is a fact—Or a hole bored through the trunk of the tree a little above the ground, with an auger, and stopped up with cement or a plug, is said to produce the same effect.

(h) A thick dressing of well-mixed compost of marl, newly-slacked lime, ashes, peat, turf, or leaf mould, or a light dressing of barn-yard manure, mixed with wood-ashes, gypsum, or charcoal, or a sprinkling of guano, laid around the trees in the spring, and shortly after dug in with a fork or spade, will greatly increase the vigor and healthfulness of fruit-trees, and cause them to bear most abundantly. Within the past few years, much light has been thrown upon the adaptation of soils

to particular plants, and it is now regarded as an established fact, that the apple-tree, as well as most, if not all other rosaceous trees, requires alkaline, and probably earthy bases, as an indispensable condition to the perfection of their fruit. It has also been shown by several enlightened chemists, that the acids generated in plants are always in union with alkaline or earthy bases, and cannot be produced without their presence; that all deciduous trees require a considerable portion of potash for the elaboration of the juices in their leaves, and that they are prosperous or otherwise, in proportion to the scarcity or abundance of that substance in the soil. Furthermore, it is well known that all clays contain potash, and that marls are principally composed of clay and carbonate of lime, and also contain potash, besides sulphate and phosphate of lime. Hence the presence of alkaline and earthy bases, particularly potash and lime, affords a satisfactory solution of the adaptation of marl or marly soils, or the application of the composts named above, to the production of apples, and probably to many other kinds of fruit.

(i) This is true with young trees, and we know of no reason why it should not prove so with older ones. At any time within the month of May or June, or soon after the leaves put forth, select a horizontal branch of the tree designed to be rendered fruitful, and remove from the part near its junction with the trunk, a ring of bark from one-fourth to one-half of an inch in breadth, but not three inches, as indicated in the question, taking precaution, at the same time, to rub off, within the space operated upon, *every part* of the bark, quite to the sap-wood, in order to obstruct the descending juices in the succeeding autumn. Another expedient resorted to, for the same purpose, is, to make two turns of a copper wire closely round the bark, with a repetition of the operation at some distance below, and leave it to become incorporated by the growth of the tree. Should either of these devices prove insufficient, or should the healing of the wounded parts follow too quickly, the operation may be repeated in the same, or in the following season. The total removal of a ring of bark produces the desired effect, sooner, by a whole year, than a mere stricture upon it, although the pressure of the wire, of itself, finally kills the bark underneath. Alkaline, or ammoniacal preparations, have also been applied to young trees, as well as to old ones, for the purpose of stimulating their growth, and accelerating their fruitfulness, such as white-washing their trunks and branches, rubbing them with soap-suds, and spreading around their roots lime, gypsum, charcoal, ashes, &c. For further particulars, see Browne's *Trees of America*, pp. 165, 247, 303, 309, 310, 315.

WHITE CHINA-GEES.—In the year 1817, I saw a flock of beautiful white China-geese, in Jefferson county, Virginia, five miles south of Charlestown, at the house of a Pennsylvanian farmer, who had removed there a few years before. They were *perfect* China-geese in shape, bill, feet, &c., with the protuberance on the upper bill, and a golden ring round the eye. The eye was a jet black, the bill and legs a bright orange-color. The plumage was

snowy white, without a colored feather of any kind. They were the most beautiful geese I ever saw, and I shall be glad if any of your readers can inform me now where they are to be had, as I wish to procure some.

A TRAVELLER.

ALDERNEY COWS.

In reading the various articles in the *Agriculturist*, on the different breeds of cattle, I have thought that the little that has been said about Alderney cows was not so complimentary to that breed as they deserve. I send you, therefore, a few short notes taken when I was in the island of Jersey, on the coast of Normandy, where the dairy is principally attended to, as well as in Alderney and Guernsey.

Some gentlemen have not thought the Alderney cow handsome; but in truth, she is the *handsomest of cows for the dairy*, although she may not fill the eye like a thorough-bred Durham, in good condition, so much esteemed by every experienced dairyman; yet there are thousands of families who want one or two cows, rich in milk and butter, mild, gentle, and intelligent, on excellent terms with the milk-maid, and the Alderney, of all others, is *the cow*. She is well adapted for the lady of a snug rural mansion, and all dairymen would find it to their interest to keep two pure Alderneys to every twelve cows, the advantages of which are well understood in some parts of Scotland, and perhaps a dairy of twenty well-chosen animals of this breed would compete with any twenty cows in the United States, when butter of superior quality fetches a good price. In short, the finest specimen of an Alderney is a true emblem of a milch cow, and any person keeping this breed merely for the dairy, who once gets one, feeds and treats her properly, will never be without one.

A good Alderney cow in Jersey, is expected to yield 7 lbs. of butter a week, and many have been known to produce double that quantity for a short period. Some give from 16 to 18 quarts of milk per day, during the months of May and June; and I was told of numerous instances of cows which yielded from 10 to 14 lbs. of butter each, in a week. Major Barns, the Governor, informed me that he had a cow which gave 25 quarts of milk a day; but ordinary cows did not average more than 10 quarts a day, yielding 7 lbs. of butter, each, in a week. It was stated, that, in summer, 9 or 10 quarts of milk would produce a pound of butter, and, in winter, when the cows are parsnip-fed, the same quantity of butter may be obtained from 7 quarts. The general average yield of each cow, old and young, is rather more than 365 lbs. of butter in a year, or about 8 quarts of milk per day. (a)

The cows there, are universally tethered, and are moved, watered, and milked, three times a day. They are fed principally on lucern, or clover, but the quality of their butter is never considered so good, when thus fed, as when they range on a natural pasture.

The milk, when strained, stands at about 10 inches deep in the vessel, till the cream has all risen, which usually occupies three days in summer; and in winter, in order to hasten its rising,

the vessels are covered, and placed on the hearth at bed-time. Consequently, skimming is never performed but once, and then not before the milk has become coagulated or turned sour. In the operation of skimming, the cream is first detached from the edge of the vessel all round, and then is raised up together, as much as possible, and by inclining the whole mass over the vessel intended to receive the cream, the latter will sometimes slip off at once from the coagulated milk. At the bottom of the vessel there is a small hole stopped with a peg, which is occasionally withdrawn, in order to drain off the serous or watery portion of the milk, and thereby separate it from the cream.

CATO.

Missouri, Oct. 19th, 1846.

(a) In the last Guernsey Agricultural Report, is an account of a cow of Sir W. Collings, which gave from her first calving, in July, 1843, to July, 1845, 804 lbs. of butter; while others have been ascertained to give, for a few months, 16 and 17 lbs. a week. A fraudulent trade, it is said, has lately been practised in England, in importing the Britany breed, and passing them off for Guernsey cattle, which they somewhat resemble in shape, but are totally different in dairy qualities. Their milk is thin and blue, while that of the Alderney or Guernsey breed is rich and yellow.

HAVRE BLUE POTATOES.

As there appears to be a prejudice against a variety of black potatoe, that I have cultivated successfully for several years, in consequence of the appearance of the purple streaks in the interior, when cut, I beg leave to make the following statements:—

Last spring I procured some superior eastern mercer and shaker potatoes of the best quality, for planting, in the same field with the black ones. The culture of each was similar, as respects manure and tillage. The white varieties suffered so much by the prevailing disease, as not to defray the expense of digging, while the black potatoes (the latest), with very slight exception, were free from any appearance of blight, the yield being good, and quality excellent. I had some of each sort cooked, precisely in the same manner, for the table. The black ones had a decided preference for their superior quality and flavor. They keep well until the appearance of a new crop.

As my potatoes with the blue streaks were imported from Havre in the year 1841, I think "Havre Blues" a more appropriate name for them than black potatoes.

J. H. BEALE.

New York, 10 mo., 3d, 1846.

TO MAKE THE BEST STICKING PLASTER.—To one pound of resin, melted, and while on the fire, add one wine-glassful of bole Armeniac, rubbed fine, one ditto Venice turpentine, and a lump of sheep's suet, the size of a walnut (without the hull); stir well, when thoroughly heated and mixed, pour into an open-mouthed jar, and stir till cold.

ROTTEN stone and turpentine, or gin, rubbed on with a clean cloth, gives a fine polish to brass.

Ladies' Department.

NATURAL HISTORY OF THE CHINCHE.

OLD LADY'S DIARY.—Whilst travelling this summer, my attention was frequently called to the subject of bed-bugs (*Cimex lectularius*), and as often astonished at the general ignorance on the subject of their natural history, and the best means of ridding chambers of the disgusting torment, I naturally turned to the pages of my Diary, from which I extract the following for the benefit of house-keepers on the highways.

Nov. 1st.—I have spent this day in rummaging over all the volumes treating on Entomology within my reach, in search of the true history of the bed-bug, and by comparing their various accounts with my notes taken at different dates, am enabled to compile the following history:—Bed-bugs, like other insects, undergo three changes, but they retain nearly the same form in all their stages; for the only transformation to which they are subject, from the young to the adult state, is occasioned by the gradual development of their wing-covers and wings (technically so called), and the growth of their bodies, which makes it necessary for them repeatedly to throw off their skins, to allow of their increase of size. They are eleven weeks in arriving at maturity. Young, half-grown, and mature, all live in the same way, and all are equally active. Their wings are extremely small, and appear like minute scales on either side, without any apparent use. The eggs of these insects are white, and of an oval form, slightly narrowed at one end, and terminated by a cap which breaks off when the young escape. The latter are very small, white, and transparent, so that the blood can be seen through the body. In this state their heads are much broader than when mature. The female deposits her eggs in unmolested places such as cracks in the wall, and the joints of bedsteads, where they remain a longer or shorter time, according to the temperature of the weather. In a favorable season, eight or ten days are sufficient to hatch them, but if in a cold place they will remain all winter unhatched. They live a whole year, and during winter hide themselves in secret cracks, as near their food as possible; and are recalled to life and activity by returning warmth.

Naturalists agree in their being natives of American pine forests, and it is said they feed on the sap of that wood; it is certain that they swarm in deal timber employed in building houses. Swallows, pigeons, and bats, are infested with them, as well as two or three species of bugs that more particularly belong to them. It is believed by many that they will feed on each other, when pressed by hunger, but this mistake arises from their cast-off skins being found in such numbers.

It is an interesting and curious fact that they were not known in England until about the year 1503, when, it is recorded by Mouffet, that two noblemen were so alarmed by the appearance of bug bites upon them, that they sent for a physician, believing they had symptoms of the plague; but their fears were turned to mirth and laughter, when shown the living cause of their distress. Disgusting

and troublesome as they are, they appear to have created more alarm than mischief in England on their first appearance, as their name implies; their original name, says Kirby, "was *chince*, or wall-louse, and the term *bug*, which is a Celtic word, signifying a ghost or goblin, was applied to them after Ray's time, most probably because they were considered terrors by night." [It is said that these insects will not survive in the climate of Ireland.] Boiling water is the best and cleanest remedy, as it not only kills all that it touches, both insect and egg, but assists in hatching the eggs that are sufficiently near to be affected by the heat; these in their turn may be killed by a second application, which purifies the infested places. When the bedsteads are thoroughly cleansed with boiling water, mercurial ointment, corrosive sublimate, or common bar soap, placed in their haunts, will prevent their return. Should the walls of the rooms be infested, pieces of white rag dipped in whitewash and carefully plastered over the holes and cracks, will effectually prevent their escape; this, too, is a good method of covering cracks and breaks in plastered walls, and a coat of white-wash over the cloth, will conceal both cloth and crack. Should a room be hopelessly infested with bugs, remove the furniture, and fumigate for one or two days with brimstone; this has proved effectual when all other remedies have failed. Fall cleaning, scalding, and white-washing, is highly desirable, as it kills the mother bugs before they retire for the winter. Fall white-washing is to be recommended on many accounts, the lime being not only a great beautifier, but it is equally a purifier, and destroys the whole army of household pests, such as bugs, spiders, moths, slugs, and flies, that are equally tormenting and disgusting.

How to Cleanse Furniture.—Oil rubbed over varnish, when discolored by water, will restore the color and polish. I must remember to tell this to Betsey, as she scolds terribly at the hot water spoiling the varnished bedsteads; if the oil don't succeed, a little varnish will, but the hot water must be used. Betsey and I have had a long talk about the best method of cleaning furniture, and the following recipes are decided on as the best. Varnished furniture should be nicely washed with warm soap-suds on a very soft cloth, and wiped perfectly dry with a fine soft towel; and then polished with a little sweet oil, rubbed on and carefully wiped off again with a silk handkerchief. Mahogany furniture must be kept perfectly clean, or it bespeaks bad housekeeping. Should it become mouldy or otherwise soiled, wash it clean with warm soap and water, then polish by rubbing on a paste made of equal parts of beeswax, soft soap, and spirits of turpentine melted together; when this is well rubbed in, spread on a thin coat of hard beeswax, let this be thoroughly rubbed in with a hard brush, and then polish with a silk handkerchief.

TO TAKE SPOTS FROM LEATHER GLOVES.—Suspend them in a jar over the strongest liquid ammonia (hartshorn). The fumes alone will remove the spots; be very careful not to let the liquid touch the gloves, or it will leave a mark even more unsightly than the spot it has removed.

SUNDRY ITEMS.

Preservation of Meat by Freezing.—Everybody knows, or ought to know, that meat will keep perfectly sweet so long as it remains frozen. Witness, for example, the mammoth which was found some years ago in the north of Siberia, preserved by the eternal frosts of the arctic circle, from the time it was enclosed in the ice, after the deluge—a whole carcase covered with skin and flesh; some of which was cooked and eaten by the enterprising discoverer, and found to be palatable. But everybody does not know that their meat will be tender or tough, according to the method of thawing it.

If frozen meat is brought into a warm room, and thawed by heat—if you have not good teeth, and the digestive powers of an ostrich, you had best leave that part of the dinner for those who have. Therefore, bring from the larder, the night before it is wanted, the meat or poultry intended for dinner, and plunge it into cold water. The next morning, a thick coating of ice will be found encrusting the whole piece. Take it off, and change the water, and let it remain until the hour for dressing it. If to be boiled, put it over the fire in cold water—if for a roast, put it not before too brisk a fire, as there is always danger that the heart of a large piece may not be completely thawed, in which case it will be spoiled.

Vegetables should be thawed in the same way, and, with few exceptions, they will be better for having been frozen. Potatoes, however, acquire a disagreeable sweetness.

How to Restore Frozen Plants.—If you have ever had the misfortune to find your parlor window favorites frozen stiff when you paid your devours to them in the morning, you will appreciate and thank an unknown friend for the following recipe for preserving tender plants from the effects of frost; and restoring them after they have been frozen. Before you allow them to feel the effects of fire—plunge the whole, or as much of the frozen plant as is practicable, into cold water, and keep it under until it has thawed, which will easily be known by its becoming flaccid—then place it where it will warm gradually, as sudden heat will cause it to die. So treated, the most hardy will recover immediately—others will lose their leaves, or even die down to the ground—and some are so tender that the slightest frost will kill them; but generally they will put forth with fresh vigor after a season of rest, and gratefully repay your care. Water sparingly, until the leaf-buds are well grown, increasing the quantity when they expand.

How to Revive Cut Flowers.—When cut flowers begin to wither, they can be revived by placing the stems an inch or more, according to their length, in hot water; if it cools before they recover, change it once or twice, and you will surely succeed. This method I constantly practise with bouquets of favorite flowers in winter, and with wild plants for botanical specimens in summer, and always successfully, except where, like the rose and a few others, the flower naturally is short-lived, and falls to pieces as soon as it feels the effects of heated air.

Season for obtaining Cuttings.—January is perhaps the best time to take cuttings of myrtles and

other hard-wooded plants—at least they strike root very readily at that season, and many a beautiful and rare exotic have I raised from the stems of my bouquets, after they have adorned the parlor table for several days, or bloomed for more than one night amid the curls of some fair girl, only less lovely than the flowers she wore. Geraniums, and many other soft-stemmed plants strike root easily at any season. Some, as oleanders, require no earth, and may be raised very readily by plunging the stems in a bottle of spring or rain water, and hanging the bottle where it will have light and air, ut not much hot sun. E. S.

Eutawah.

Boys' Department.

SNOW—ITS WONDERS AND USES.

COUNCIL OF THE YOUNG NATURALISTS.—“How beautiful and dazzling is the snow in the sunshine!” said Frank Dorsey, of Georgia, on his first winter visit to the North. “Why is it opaque and white, cousin George, instead of being clear and colorless like ice? Is there any difference in their formation? If so, be pleased to describe it, with such other phenomena as have come under your notice.”

“I believe there is no difference,” replied George, “in the form of the spiculæ or fine frosty needles, of which the two are composed, except that those of snow, perhaps, become eight times more expanded than those of ice. Snow, you are aware, is formed by a process of regular crystallization by the union of a great number of minute frozen particles of water floating in mid air, which collect together in their descent, and before they reach the surface of the earth, are converted into flakes. When clouds are formed at an elevation where the temperature is below 32°F., the particles of moisture become congealed and fall down in the form of snow or hail. It often happens, however, that the temperature of the lower regions of the atmosphere is somewhat higher than the freezing point, and the snow again dissolves before it reaches the earth. The reason of the opacity and whiteness of snow, is, that the icy spiculæ of which it is composed, in falling, rest in every possible angle, and reflect the light in as many directions. If you take a single crystal of snow, you will see that it is perfectly transparent; and if all its particles rested on each other in parallel lines, the whole mass would be as clear as a like quantity of ice.”

“You speak of crystals,” said Frank,—“Am I to understand that water, in freezing, is crystallized in a similar manner as alum or salt, in passing from a fluid to a solid state?”

“Yes,” answered George; “all crystallizing substances shoot out needles or points at determinate angles, which never vary in the same substance, but have an almost infinite variety in different materials. This property, you may recollect, in crystallography, is called the angle of crystallization. In the freezing of water, these spiculæ, as far as known, are uniformly joined at angles of 30°, 60°, 120°, and 150°. They usually consist of flat, transparent stars, with six radial points, subtending angles of exactly 60° or 120°, displaying an endless



CRYSTALS OF SNOW.—FIG. 8.

variety of shape, as if produced by a kaleidoscope, a beauty and regularity that is as little seen or suspected by people in general, as if they had no existence. By inspecting the diagram I now present you, on which are denoted some magnified crystals of snow, drawn after nature, you will perceive some of them are simple, while others are compound, and that wherever the spiculæ are attached, whether large or small, they bear an unvarying relation to each other; although some parts may appear round to the eye, on close examination they will be found to consist of very short right lines. The structure of a compound crystal of snow, demonstrates that a drop of rain is also formed by the union of a great number of smaller parts."

"Oh! how beautiful!" exclaimed Frank. "How wonderful are the works of Nature! It must be a pleasing study to observe and delineate the various forms of the crystals of snow."

"Oh, yes!" said George; "but it is attended with some difficulty, as they can only be examined in the open air; for they are so evanescent in their nature, that the slightest elevation of temperature above the freezing point, instantly destroys them. Even out of doors, unless the weather be very cold, the close proximity to the eye, to which they must be brought for microscopic examination, is sufficient to obliterate their form. If there is a current of mild air through which they pass, they become soft and adhere to each other, making those shapeless masses which are called flakes. If there is any wind, they are blown into minute fragments, forming fine snow. The crystals should be received on a dark substance, as the sleeve of your coat, to display them properly, and even at best they rarely exceed an eighth of an inch in diameter, which is sufficient to cause them to be overlooked, except by those who are accustomed to pry into the minutia of creation."

"I should now like to be informed," said Frank, "what are the principal uses of snow."

"One of the chief uses of snow," answered George, "is to screen plants and herbage from winter's chilling blasts. For snow, from its lightness, is a poor conductor of heat, which does not readily pass through it, or into it, from contiguous bodies. There is an old and true saying, which I have often heard our grandfather repeat, that, 'In northern countries, snow is sent by Providence as a great coat to the earth.' The great scene of Nature's operations, during winter, is below the surface of the ground, where she is preparing the germs and roots about to shoot forth,—elaborating juices and consolidating parts previous to the active vegetation of spring. But, were the ground to be left bare, in cold climates, it would be hard frozen to a considerable depth, vegetable life would either be suspended or destroyed, and the spring would be far advanced before the earth could be thawed. Hence, to prevent these ill effects, a soft and warm covering of snow has been provided to prevent the internal warmth of the earth from being carried off, the offspring of the very cold, which is to be guarded against, thereby making the evil work its own remedy. The plants being thus sheltered, shoot forth with renewed vigor in spring; and, cherished by the genial warmth of the sun, put forth with increased luxuriance. Ammonia, and other fertilizing substances, are also contained in snow, even when taken from the glaciers of Mont Blanc, which likewise cherish vegetation by their invigorating influence. Among the subordinate uses of snow, may be reckoned the advantage of having good roads in winter, for conveying produce to market, drawing wood, manure, &c., benefits by no means small, which every Northern farmer well knows how to appreciate."

"I thank you, cousin," said Frank, "and I hope to repay you when you visit me in Georgia." B

FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Cambria, we are in receipt of our foreign journals, up to December 4th.

MARKETS.—Ashes were dull. Cotton had been taken hold of extensively by speculators, and in consequence of it had advanced $\frac{3}{4}$ d per lb. The manufacturers were uniting to put down the price, and will doubtless succeed by working short time, as the prices of cotton yarns and goods do not justify this advance. Moreover, from the best calculations which can be made, there will be a stock of cotton on hand in Liverpool, on the 1st of November next, of 413,100 bales, which is considered amply sufficient to put down speculation, as the crop in the United States for '47, may prove a large one. Cotton has now advanced altogether, $1\frac{1}{4}$ d. (3 cts.) per lb. from the lowest point. This is a great rise, and quite as much as could be expected under the circumstances of the case. Stock on hand, in Liverpool, on the 1st December, 504,000 bales, against 914,000, same period last year. Guano, in active demand. Hemp, firm at an advance. Flour, an advance of 1s. per bbl. Indian Corn has fallen 2s. to 3s. per quarter. The sales in both continue large. Naval Stores, flat. Provisions of all kinds, steady. Lard, Rice, and Tallow, at a decline. Sugar, an advance. Tobacco, no change. Wool, the same.

Money continues abundant at 3 per cent. The very best paper is done at 2 per cent.

The Wheat Harvest in the Polish Provinces, and New Russia, which supply Odessa on the Black Sea, and the ports of the Sea of Azof, proves very abundant the past season, and large supplies for England and France may be expected from these quarters. The rice and maize harvests, also, have been good.

East India Cotton.—Renewed exertions are being made to better clean and fit this article for the European market.

Hops.—A large quantity of American hops, recently arrived in London, and excited a good deal of attention on the part of the trade. Since the reduction of duties on this article, considerable exports will doubtless be made from the United States.

The Potato Disease.—Baron Liebig imagines the essence of the potato disease to consist in the conversion of the albumen, a usual constituent of healthy potatoes, into caseine, a principle which, by its great instability of composition, is supposed to cause the potato to putrify rapidly. The Rev. F. Dauvenoy states, in the Taunton Courier, that he has discovered by the microscope a minute insect, crystal-like, and transparent, resembling a spider, in the midst of potato mildew, evidently feeding on it, and making its nest among the thread-beds of fungi. From observations made, there must be more than 100 in a single tuber.

How to Decoy and Destroy Ants in Dwelling-houses.—When practicable, place as near the end or passage on a level, a basin or bowl filled with dry mould; then put a bone or bones of fresh meat in the bottom (such as are discarded from the dining-room). You will soon find your tormentors congregate thousands strong; for I assure you they are first-rate bone-polishers. Forty years ago, when a boy, whenever I wanted a particular bone of a duck or goose polished, I always found the ant-hill the best manufactory. Have in readiness a strong solution of boiling salt and water, and when you perceive your enemies begin to retreat, cover them with it. Salt and water cold will destroy them poured into their haunts; but the better way is to decoy them out of their strongholds. It will be good policy to wash out the basin or bowl, and fill it with fresh mould previous to a second decoy, as it will be perceived salt is not a favorite.—*Gardener's Chronicle.*

Diseases of Poultry.—Much unintentional cruelty is inflicted by hands the most delicate, and great suffering endured by all our domestic animals, owing to deficiency

of knowledge possessed by man. Books vary greatly; are too often manufactured, and errors are copied from one into another without any regard to experience. This arises from the fact of few men in the medical profession, in this country, having deemed it worth their while to make this branch of comparative anatomy a study, or to send to the journals the results of their physiological or pathological observations or experience, confirmed by the wonderful improvements of late years in modern science. We must, however, make an exception when alluding to those on the Continent, who have done so much as Réaumur, Fleurens in his surprising experiments on Phthisis in Man and Fowls, Beckstein and so many others—not forgetting the studies of Sir C. Bell, or recently, Mr. Todd, of London, in his beautiful and elaborate papers on "The Egg" (*Lancet*, 4th April, 1846). Clater also has, in his book "On Cattle," published a chapter on this head, worth all that has ever been written, except that he does not give the reason for the effect produced by a medicine, which would afford great assistance to other inquirers. If a few in the medical profession would keep poultry for the purpose, as well as for use and profit, and send from time to time to the journals the numberless curious observations which must fall under their notice, as incidents for comparative anatomy, not only would all old errors be soon corrected, much animal suffering be spared, but many useful and valuable data be collected applicable to the treatment of diseases incident to the human frame, and the sufferings of humanity considerably lessened.—*Ibid.*

Production and Consumption of Eggs in France.—The following statement by M. Legrand, a member of the French Statistical Society, on the production and consumption of eggs in France, may not prove uninteresting, as it tends considerably to aid me in my endeavors to prove that, however insignificant in themselves individual eggs may appear, in the aggregate they are of no small importance:—"In 1813, the number of eggs exported from France was 1,754,140. Between 1816 and 1822, the number exported rose rapidly from 8,733,000 to 55,717,500; and in 1834, the number had increased to 90,441,600. In 1835, 76,190,120 were exported for England; 60,800 for Belgium; 49,696 for the United States; 42,960 for Switzerland; 34,800 for Spain; and 306,304 to other parts of the world. The total amount of the exportations for that year was 3,829,284 francs. The consumption in Paris is calculated at $17\frac{1}{2}$ eggs per head, or 101,012,400. The consumption in other parts of France may be reckoned at double this rate, as in many parts of the country, dishes composed of eggs and milk, are the principal items in all the meals. The consumption of eggs for the whole kingdom including the capital, is estimated at 7,231,160,000; add to this number those exported, and those necessary for reproduction, and it will result that 7,380,925,000 eggs were laid in France during the year 1835.—*Richardson on Domestic Fowls.*

The Ostrich or Cochín-China Fowl.—This variety of fowl so far surpasses both in size and power all that we have ever yet seen in the shape of poultry, as to lead many who have been permitted to inspect them, to refer them to the family of bustards. They are, however, genuine poultry. Their general color is a rich, brown deep-bay; on the breast is a marking of a blackish color, and of the shape of a horseshoe; the comb is of a medium size, serrated, but not deeply so, and the wattles are double. Besides their gigantic size, however, these fowl possess other distinctive characteristics, among which I may enumerate the following:—the disposition of the feathers on the back of the cock's neck is reversed, these being turned upwards; the wing is jointed, so that the posterior half can, at pleasure, be doubled up, and brought forward between the anterior half of the body.—*Ibid.*

Editor's Table.

A SECOND VOLUME ON THE TREES OF AMERICA.—We are authorized to announce from Mr. Browne, that the success of his new work on trees, has been sufficient to warrant the preparation of a second volume of the size and character of the first, about one-half of the engravings of which are already executed. This work, when completed, will undoubtedly contain more truly practical and useful information on American trees than any other work extant.

FLORIDA OLIVES.—The editor of the *St. Augustine News* has been presented with some fine fresh olives, the growth of that place. The soil and climate of that State are said to be well adapted to the cultivation of this fruit. The olive oil which is imported into the United States, is valued at \$50,000 annually.

CULTIVATION OF THE ALMOND.—One of the most important advantages of cultivating this excellent fruit, seems to be, that it requires neither care of cultivation, nor excellence of soil, as it appears to prefer warm, dry soils like those of both shores of the Mediterranean, and would doubtless succeed in many parts of Florida, and the islands of Georgia. Almond trees are easily propagated, either by planting slips, or by budding on their own, or stocks of the plum. Who among our Southern readers will give this subject a fair trial?

CANALS IN THE CAUCASUS.—The Russian government has already commenced the restoration of the irrigation canals, which intersect all the southeastern portion of the Transcaucasian country. Most of these canals were constructed by the ancient Kings of Armenia, and others by the shahs of Persia and the sirdars of Erivan; the origin of some of them is even traced up to the primeval monarchs of the ancient East. For instance, one bears the name of Schamiran, because popular tradition assigns its origin to Semiramis. In the present district of Erivan, alone, there are 148 main canals, which feed 384 secondary channels. Very great numbers of these, however, are now but ruins which merely serve to testify their former immense development, as well as what was once the population and fertility of the vast steppes they intersect, and which are now naught but barren plains. Successive political catastrophes, wars, invasions, and the oppressions practised on the people by different governments, have annihilated these sources of riches. The Russian government intends to restore a certain number of these canals, for which purpose, it is said, Prince Woronzoff displays great activity.

ARTIFICIAL ICING.—An invention for generating ice by artificial means has just been discovered by Messrs. Lings and Keith, the patentees of the ice safe, &c. The ice is produced by means of a powder composed of salts, ammonia, and various chemical mixtures. This powder is placed in a simple apparatus, something in the shape of a churn, but smaller in size, and being mixed with water, is kept in motion by a rotary process around the bottle of wine to be cooled. In a few minutes, and at a very trifling expense, the wine is sufficiently cooled, and if kept a few minutes longer in the vessel would be actually frozen. A bottle of water may be frozen to a solid by this prolonged motion; but of course it is not requisite to reduce the temperature of wine below a certain degree of coolness. The simplicity of the contrivance is one of the principal advantages of it, and the ease with which the effect is produced is equally beneficial. The most inexperienced in chemical experiments can produce the required results, which, in fact, require nothing but the labor of the hand but a few minutes.

SICKNESS CAUSED BY DIGGING DISEASED POTATOES.—Last week, one of our subscribers, and his two sons, proceeded to Chappaquiddic, for the purpose of dig-

ging potatoes. He had not long been engaged when his eldest son became quite sick, and vomited freely; he was immediately taken to the nearest dwelling, and properly cared for. Shortly after returning to the field, the younger son was seized in a similar manner, and the father began to feel quite unwell; indeed, such was the smell arising from the really putrid potatoes, that he was obliged to suspend operations and return to town. The elder son has since remained quite sick, and is now under the care of a physician.—*Vineyard Gazette.*

SANTA ANNA'S FLOCKS.—A *Supply for the Army.*—The writer in *Blackwood's* September number on Mexico, says a large portion of the country between Vera Cruz and the city of Mexico, belongs to the well-known Gen. Santa Anna. The soil of his vast estate is fertile, but left to its natural fertility—the General being a shepherd, and said to have from 40 to 50,000 head of cattle in his pastures. Should the government quarter the army on him for a while, would it not greatly expedite their efforts to “conquer a peace?”

THE HORSE BEAN.—Of the horse bean, there is considerable variety; two of them have been selected by us for cultivation, believing them the best adapted for the climate, and quite sufficient of the kind. They are the Early Long Pod and Broad Windsor. Both succeed with the same treatment, but the first named is the most certain bearer of the two. In England, where they are extensively cultivated, they do much better than in this country, preferring its damp, cool atmosphere, to our frequently dry and hot one; to counteract which it is desirable to plant as early in the spring, as the ground will admit of being worked, in the latitude of Philadelphia, the latter part of February, or beginning of March, if possible; they then come into flower before the weather becomes hot, otherwise the blossoms drop and set no fruit.

Those who are particularly fond of this bean, can accelerate the crop, by setting a frame at the close of winter, under the lee of a board fence, or other protected situation, exposed to the sun, which cover with glass, and in severe weather with matting or straw, so as effectually to exclude the frost. Herein plant the beans, one seed to the square inch, and let them remain, until the arrival of milder weather, when they should be transplanted to the position in the garden, which it is intended they shall occupy. In transplanting them, care should be taken not to injure the roots, to guard against which, use a trowel to ease them up, and suffer as much earth as will, to adhere. During the time they remain in the frame, the sash should be raised when the weather is mild, to admit the air, or gradually harden them, preparatory to full exposure when transplanted.—*Rural Register.*

LARGE TREE IN MEXICO.—His excellency Don Fernando Lorenza, formerly Archbishop of Mexico, affirms in his Annotations, printed in that city in 1770, that, in company with the Archbishop of Guatemala, and other persons, he visited a celebrated cypress, (*Cupressus disticha?*) known by the Indian name of *ahuheutli*, which he found to be so very large, that in a cavity originally caused by a bolt of lightning, he made 100 boys enter at a time.

CONSUMPTION OF SALT ON THE GLOBE.—It has been estimated that the annual consumption of salt on the entire globe is 80 to 100,000,000 quintals, from 25 to 30,000,000 of which are consumed in Europe, and 5 or 6,000,000 in the United States.

CURIOUS MODE OF SPLITTING ROCKS.—According to the calculations of philosophers, a sphere, or little globe of water, only one inch in diameter, expands in freezing, with a force superior to the resistance of 13½ tons weight. This power, it is said, has been applied with success in Sweden, to the splitting of rocks. Why cannot this mode be adopted in Canada and the northern parts of the U. S., in winter, filling holes drilled in the rocks with water and allowing it to freeze?

THE ILLUMINATED BIBLE, containing the Old and New Testaments, translated out of the Original Tongues, and with the Former Translations diligently compared and revised. With Marginal Readings, References, and Chronological Dates. Also, the Apocrypha. To which are added a Chronological Index, an Index of the Subjects contained in the Old and New Testaments, Tables of Weights, Coins, Measures, a List of Proper Names, a Concordance, &c. Embellished with 1600 Historical Engravings, by J. A. Adams, more than 1400 of which are from Original Designs by J. G. Chapman. New York: Harper & Brothers, 82 Cliff street. pp. 1300. One large Quarto volume, elegantly bound in morocco, extra gilt. Price \$22.50.

We seldom open the Bible without feeling grateful for the early recollections which steal over us by the magic of memory, and in an instant, transport us back to the home of our childhood; and the hour, brief and bright, when our first thoughts were associated with that holy book, vividly shines through the dim vista of succeeding years. No weary task is brought to mind; no irksome repetition ill understood; no soiled page, blotted with affliction's tears; but, instead of these, fond memories on which we love to dwell, as the kind parental look, and the gentle tone of commendation, that needed no reward save the privilege of reading this Book of Books. Well do we remember with what pleasure we pored upon the large print of our old Family Bible, in those first days of life, most literally spelling over those simple, yet beautiful and sublime truths, while the joyous sunbeams not unfrequently illuminated the sacred page. How applicable the gilding for such a book!

In the copy before us the paper is firm and good, the letter-press large and clear, the embellishments striking, beautiful, and executed with taste, and the binding substantial and rich. It is by far the most elegant edition that has ever been issued from the American press, and is well adapted for a *Sacred, Birth-day, Marriage, Christmas, or New-Year's Gift*,—not an *Ephemeral*, merely to be looked at for a day, and laid aside for ever, but a *Perennial*, with a character and endurance, which exalt it to a higher worth, that will serve as an *Heirloom* for generations unborn!

The wise, or fastidious, may smile at us, perhaps, for acknowledging that we indulge in a feeling akin to awe, whenever we gaze upon an ancient book of any kind; but where can a harvest of richer associations be gathered, or a theme better fitted for meditation, than from the sight of an old Family Bible? We were never more strongly impressed with this, than a few months since, on visiting the old mansion at Flushing, built by the venerable John Bowne, in 1661. Here we saw a precious relic, printed in black letter, in 1620, bearing the autograph of its early possessor, which has remained under the same roof, passed, as an heirloom, through the hands of his descendants, and from its careful preservation, it will probably so continue for a century to come.

THE RURAL REGISTER AND ALMANAC, for 1847, pp. 150. 12mo. Philadelphia: Lea & Blanchard. Price 25 cents. The editor of this little work says that "He has endeavored to collect together such items as interest every country resident, and has availed himself of the publications of various European authorities." In addition to the calendar and advertising pages, it is filled with a good variety of well-digested matter, and illustrated by numerous engravings, for a sample of which the reader is referred to page 24 of the present number.

SACRED POEMS. By N. P. Willis. New York: Clark & Austin, 205 Broadway. pp. 126, 32mo. Price 37½ cents. This neat little volume is very appropriate for a small Christmas or New-Year's gift, and needs no further commendation.

THE POEMS OF ALFRED B. STREET, complete edition. New York: Clark & Austin, 205 Broadway. pp. 320, 8 vo. Price \$1.50. The author of this beautiful work, who is well known in our Periodical Literature, passed the early part of his life in a wild and picturesque region in the southwestern part of New York, his native place. Apart from the busy haunts of mankind, his eye was caught by the strongly-marked and beautiful scenes by which he was surrounded—and to the first impressions thus made, may be attributed the fact, that the subjects for his poems relate so much to Nature and so little to man. Instead, therefore, of aiming to depict the heart, he has endeavored to sketch the features of that with which he was the most familiar. It is with these views, it would seem, that this volume has been submitted to the public. It is well executed, handsomely embellished, and cannot fail to be an acceptable present.

A MEMOIR ON MAIZE, OR INDIAN CORN; compiled under the direction of the American Institute. By D. J. Browne. To which is appended Barlow's Poem on Hasty-Pudding. New York: W. H. Graham, Tribune Buildings. pp. 56, 12mo. Price, in pamphlet form, 12½ cents—in muslin, 25 cents. This little Memoir, which appears to be the result of much labor and research, treats of the geography, history, and mythology of maize, its chemical constituents as far as known, with a concise description of the principal varieties cultivated in the United States, and practical directions for kiln-drying, grinding, cooking, &c. Independent of the poem, Hasty-Pudding, with its millions of admirers, the book contains in itself more general, useful, and practical information on the subject of Indian Corn, than can be found in any one work in any language.

EXPERIMENTAL RESEARCHES ON THE FOOD OF ANIMALS, and the Fattening of Cattle; with Remarks on the Food of Man. Based upon Experiments undertaken by Order of the British government. By Robert Dundas Thompson, M. D. From the last London Edition. New York: D. Appleton & Co., 200 Broadway. pp. 172, 12mo. Price 50 cents, in muslin. It appears from the author's preface, that this work is based on an extensive series of experiments which were made at the instance of the British Government. The original object of that inquiry was to determine the relative influence of barley and malt in feeding cattle; but as the opportunity seemed a favorable one for investigating some scientific problem of great importance to physiology, and of extreme value in the physical management of man and animals, advantage was taken of it, to extend the experiments so as to include these objects; and in so doing, he has brought to light many facts and circumstances of the highest interest. These experiments seem to demonstrate that the fat of animals cannot be produced from the oil of the food, but must be evolved from the calorific, or heat-forming portion of the aliment, essentially assisted by its nitrogenous materials. By following out this principle, Dr. Thompson thinks he has been enabled to detect one important relation subsisting between the nutritive and heat-forming portion of the food, upon the determination of which, for the various conditions of man and animals, he considers the laws of animal dieting depend.

As this work is full of information that will interest and prove useful to all practical and scientific agriculturists, by enlarging their field of physiological and chemical knowledge, we cordially recommend it to the attention of this most important class of the community.

PICTORIAL HISTORY OF ENGLAND. This sterling work, when completed, will form the best, the cheapest, and the most authentic history of England ever published in this or any other country. The first eleven numbers are handsomely done up in muslin by Messrs. Harper, and on sale at \$3.50 the volume.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, DECEMBER 23, 1846.

ASHES, Pots,.....per 100 lbs.	\$4 62	to	\$4 68
Pearls,.....do.	5 50	"	5 62
BALF ROPE,.....lb.	5	"	7
BARK, Quercitron,.....ton.	25 00	"	27 00
BEANS, White,.....bush.	1 12	"	1 25
BEEFWAX, Am. Yellow,.....lb.	26	"	30
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	16	"	25
Shipping,.....do.	9	"	13
CANDLES, Mould, Tallow,.....do.	9	"	11
Sperm,.....do.	25	"	33
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	6 00	"	7 00
CODRAGE, American,.....lb.	11	"	12
COTTON,.....do.	9	"	13
COTTON BAGGING, Amer. hemp,.....yard.	11	"	14
FEATHERS,.....lb.	25	"	34
FLAX, American,.....do.	7	"	8
FLOUR, Northern and Western,.....bbl.	5 25	"	5 56
Fancy,.....do.	6 00	"	6 50
Southern,.....do.	5 25	"	5 52
Richmond City Mills,.....do.	6 25	"	7 00
Buckwheat,.....do.	4 00	"	4 25
Rye,.....do.	3 75	"	4 00
GRAIN—Wheat, Western,.....bush.	1 05	"	1 20
Southern,.....do.	1 00	"	1 10
Rye,.....do.	84	"	85
Corn, Northern,.....do.	78	"	80
Southern,.....do.	73	"	75
Barley,.....do.	61	"	65
Oats, Northern,.....do.	38	"	40
Southern,.....do.	33	"	35
GUANO,.....do.	2 00	"	3 00
HAY, in bales,.....100 lbs.	56	"	62
HEMP, Russia, clean,.....ton.	220 00	"	225 00
American, water-rotted,.....do.	105 00	"	185 00
American, dew-rotted,.....do.	75 00	"	125 00
HIDES, Dry Southern,.....do.	7	"	8 1/2
HOPS,.....lb.	9	"	12
HORNS,.....100.	1 00	"	7 00
LEAD, pig,.....do.	4 50	"	4 56
Sheet and bar,.....lb.	4 1/2	"	5 1/2
MEAL, Corn,.....bbl.	3 75	"	4 00
Corn,.....hhd.	17 75	"	18 00
MOLASSES, New Orleans,.....gal.	30	"	34
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 00	"	2 25
Pitch,.....do.	1 00	"	1 06
Rosin,.....do.	55	"	65
Turpentine,.....do.	3 50	"	3 56
Spirits Turpentine, Southern,.....gal.	38	"	41
OIL, Linseed, American,.....do.	60	"	63
Castor,.....do.	55	"	70
Lard,.....do.	65	"	70
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	1 25	"	1 50
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	7 00	"	9 00
Prime,.....do.	5 75	"	6 75
Smoked,.....lb.	6	"	9
Rotnds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	9 50	"	12 00
Prime,.....do.	7 88	"	9 25
Lard,.....lb.	7	"	8
Bacon sides, Smoked,.....do.	5	"	6
In pickle,.....do.	4	"	5
Hams, Smoked,.....do.	6	"	10
Pickled,.....do.	5	"	8
Shoulders, Smoked,.....do.	5	"	6
Pickled,.....do.	4 1/2	"	5
RICE,.....100 lbs.	3 37	"	4 12
SALT,.....sack,	1 25	"	1 32
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	6	"	9
Timothy,.....7 bush.	11 00	"	20 00
Flax, clean,.....do.	10 25	"	11 25
rough,.....do.	9 00	"	9 25
SODA, Ash, cont'g 80 per cent. soda,....lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	7	"	9
SUMAC, American,.....ton.	35 00	"	37 50
TALLOW,.....lb.	8	"	9
TOBACCO,.....do.	2	"	7
WHISKEY, American,.....gal.	24	"	25
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	25	"	30
Half blood,.....do.	20	"	25
Common do,.....do.	18	"	20

REMARKS.—*Ashes* have fallen a trifle. *Cotton* has advanced fully half a cent per lb. *Grain, Hay, Molasses, and Provisions*, also, there is a slight advance. In other articles we find nothing particularly worthy of notice.

Crops.—The sugar crop comes in lighter than was anticipated. The estimates in New Orleans, of the present crop, vary from 125,000 to 150,000 hhd.

TO CORRESPONDENTS.—Communications have been received from Cato, Old Lady, E. S., James Rough, M., Edmund Ruffin, J. Murdoch, John Parker, Dr. Charles T. Jackson, L. F. Allen, M. W. Philips, John P. Norton, Dr. James P. Peacocke, Robert Corwin, R. Abbey, and An Old Subscriber.

Eutawah is informed that her excellent article on Apple-Butter is laid by for our September No.

Cato's former article on the History of Merino Sheep will occupy more room in our columns than we are able to spare for the present.

Will Messrs. Hovey & Co. inform us whether their excellent nurseries in Cambridge have ever suffered from the gases of the brick-kilns in that vicinity?

Will John Browne, of Long Island, in Lake Winnipisogee, furnish us with an account of his mode of cultivating Indian corn? Can he send us some of the corn, bearing his name, for seed?

ACKNOWLEDGMENTS.—Report to the New Orleans Chamber of Commerce, in Reply to the Questions Propounded by the Honorable Secretary of the Treasury, on the Subject of the Tariff and Warehouse System. Also the Transactions of the Agricultural Society and Mechanics' Institute of Newcastle County, Del., at the 11th Annual Meeting, held at Wilmington, on the 16th and 17th of September, 1846; the Address delivered at the opening of the 19th Annual Fair of the American Institute of the city of New York, by the Hon. Mahlon Dickerson, President of the Institute, and the Horticultural Report of the said Fair by Thomas Bridgeman; likewise an Address on Agriculture delivered before the Worcester County Agricultural Society, by John S. Skinner, Esq., in September, 1846, and a pamphlet on the Analysis of the Oat, by Professor John P. Norton.

HORSES.—We have received a letter from a breeder in Western New York, saying that he has two splendid pairs of horses for sale; one brown, six years old, only sixteen hands high, bob tails, and can do 13 miles an hour together, and either do a mile in 3 minutes and 40 seconds; price \$600. The other pair bay, six years old, only sixteen hands high, without white, bob tails, can do 14 miles an hour together; and either can trot alone a mile in 3 minutes 30 seconds; price \$800. They will be delivered here; but will only be brought on a positive order; the purchaser to have the privilege of returning the horses, and receiving back the price if they be not what they are represented.

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The Subscriber has just opened an Agricultural Warehouse at New Orleans, where he will constantly keep on hand a very general assortment of plows suitable for the Southern planter, together with harrows, rollers, cultivators, horse-powers, grain threshers, rye threshers and hulling machines, fanning mills, burr stone and cast iron grain mills, corn and cob crushers, corn shellers and huskers, vegetable cutters, straw cutters, seed sowers, wheelbarrows, trucks, grain cradles, ox yokes, shovels, spades, forks, scythes, rakes, axes, hoes, picks, chains, churns, grindstones, &c., &c.

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New Orleans, Dec. 1, 1846.

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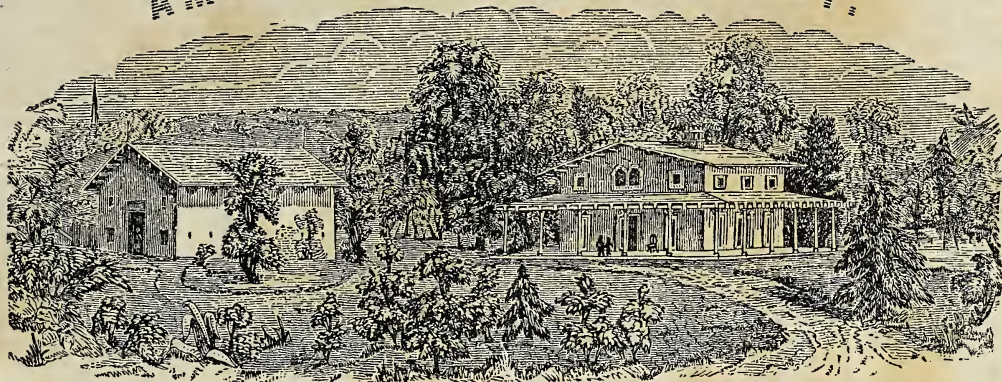
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VOL. VI.

NEW YORK, FEBRUARY, 1847.

NO. II.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

PLANTING THE ISABELLA GRAPE-VINE.

THE most favorable season for planting the Isabella grape-vine in the United States, is when the red-flowered maple is in bloom, which usually occurs in Georgia from the 20th to the last of February, and five or six weeks later near Philadelphia and New York. In selecting the cuttings for a vineyard, they should be of one variety, and taken from the most fruitful part of the vine. Let us not content ourselves with single clusters, but those which are the most prolific. The greatest proportion of fruit grows from the buds on the last year's shoots next to the old wood, with the exception of the nearest eye, the top buds being unfruitful and seldom bearing at all. Some prefer to plant cuttings containing a considerable portion of the old wood; but, as it is not always prudent nor economical to mutilate a favorite vine too much, it is best to select fruitful cuttings of the last year's growth, with the wood well ripened. They should be of a moderate size, short-jointed, and containing from six to eight eyes or buds in each. They should be cut off transversely from the vine, with a sharp knife, close to the old wood, and not less than two inches of blank wood should be left for the protection of the terminal buds. The ends of the cuttings that are to remain above ground should be cut in an oblique direction, and the sloping side should be opposite the side containing the uppermost bud. If possible, they should be planted in calm weather, immediately after separation from the parent vine, and be obtained from a soil, situation, and climate, similar to those in which they are intended to grow; but if any difference in these respects should unavoidably occur, it will be better to transplant from a poorer to a richer, and from a dryer to a moister soil, as also from a colder to a warmer climate. But should it be necessary to convey the cuttings from a distance, their lower ends should be immersed in a composition of fine earth, well mixed with linseed or other oil, of about

the consistence of tar, as soon as they are cut off from the parent stock, at the same time, taking the precaution not to cut off the top ends till the moment they are to be used.

If the situation of the ground be on a plain, or in a valley, it should be dug two feet in depth, and on rising ground three; but on a hill-side, somewhat steeper, it should be turned up at least four feet, in order that the roots may penetrate beyond the reach of drought. If the cuttings are intended to be planted in drills or rows, let there be formed trenches three feet in length, two feet in depth, and the width of a spade, leaving intervals or baulks, a yard in length, between the trenches till the row is finished. Then, with good virgin soil, if it be at hand, if not let it be procured from the woods, and fill up the trenches therewith, mixing it at the same time with a due proportion of leaf mould or well-rotted manure, or what is still better, the leaves and husks of vines, or grape-seeds, in order to quicken and strengthen the growth of the plants. If a vineyard be the object which we have in view, let the rows or drills be trenched from five to ten feet asunder, according to the surface of the ground and the latitude of the place. If the situation be on a plain, in a high degree of latitude, the rows should be eight or ten feet apart; but if it be on the side of a very steep hill, or in a low degree of latitude, five feet will be sufficient; and on moderately inclined surfaces, or in higher latitudes, six or eight feet apart will be all that is required. With regard to the direction of the rows, and the height to which the vines should be trained, they may run in a manner that will allow them to face any point of the horizon between south and east; and they may be supported on props, or trellises from six to ten feet in height, and even more, according to the vigor of the vines. But in cities, or about houses in the country, single vines may be trained on the sides and ends of buildings, along the sides of fences, or the trunks and branches of trees.

The ground having been prepared in the manner before described, the cuttings are next to be planted in the centres of the trenches, so that each terminal bud will be even with the surface, and directed towards the south. Then the earth must be firmly pressed round each plant, and should it subsequently settle and leave more than one bud above ground, more earth or mould must be added to bury them up. As soon as the season becomes hot and dry, it will be necessary to protect the cuttings from the mid-day sun, by means of matting or other materials, which should be removed towards evening, and allow them to remain uncovered until the next morning, at about the time of the disappearance of the dew. Strict attention must now be observed in keeping the soil around the cuttings continually moist, and should not this be effected by natural means, it must be done by sprinkling rain or river water over them, or what is still better, soap-suds, or other stimulating fluids, specially prepared for the purpose, but not too strong. Soon after the cuttings begin to take root, which may be known by the swelling of the buds above the surface, young shoots will gradually protrude, and the plants will require but little attention during the remainder of the season, except an occasional hoeing to destroy the weeds, and to loosen the soil in order to admit the air and moisture about the roots. Should the season prove dry, however, and the earth around the plants become parched, it will be necessary to irrigate them frequently with rain or river water, or with prepared liquids as suggested above. Early in autumn, rub off all the buds from each plant, except two, which are to be reserved for training the ensuing year. For subsequent treatment, see Browne's *Trees of America*, page 139.

NEW YORK FARMERS' CLUB.

Cisterns in Barn-yards.—Dr. Underhill remarked that he had seen barn-yards so placed on the side of hills that most of the rich liquid manures contained in them drained off to the already rich land at the bottom of the hill, and sometimes into the streams of the valleys, thus carrying away the chief fertilizing salts in a state of solution. He recommended that a water-tight cistern be formed of clay, masonry, or planks, in the lowest part of the yard, into which all the liquid part of the manure may readily be conducted. Near this cistern he would make a heap, in layers, of alluvial soil and all vegetable and animal matter at command, such as road-scrappings, turf-mould, leaves of the forest, the refuse of old wood piles, straw, refuse hay, potatoe-stalks, weeds and rubbish of all kinds from the garden, the refuse vegetables from the kitchen, the entrails and bones of fish, and the fragments of all dead animals. Between these layers he would apply sprinklings of pot-ashes, soda, shell-lime, charcoal, gypsum, soot, &c.; and then, with a crow-bar, he would make numerous holes quite to the bottom of the heap, and pour in at times the liquid manure from the cistern. (a) In thirty days, he said, he had made in this way 500 loads of manure good for all kinds of crops.

Dr. H. A. Field stated that he had been busily engaged for four or five years in restoring his farm to fertility by drawing out muck in summer or

autumn, and forming alternate layers of it in his barn-yard, about a foot thick, with layers of animal manure three or four inches thick, scattering between each a springling of unslaked lime, and applying this compost the following spring and summer to his land and crops. He recommended that a layer of plaster, charcoal, or peat, should be put on the top of the compost heap, in order to prevent the escape of the ammonia and other gases evolved in the decomposition of the muck and manure, which will be greatly accelerated by the lime. He said that he was aware that some loss would follow from the use of quick lime in connection with putrescent manures; but he thought the precaution he had suggested, if properly observed, would fix most of the gases in the upper strata of the heap, and the little that would be lost would be more than compensated by the rapidity and perfect manner in which the compost is made.

(a) It is obvious that by the mode of making a compost as practised by Dr. Underhill, a considerable portion of the most valuable part of the manure will be lost by the escape of the ammonia caused by the action of the lime on the animal matter contained in the heap. His plan in every other respect is excellent, and could readily be remedied by sprinkling over the pile a layer of plaster, pulverized charcoal, dried peat, or rich mould.

AMERICAN AGRICULTURE.

It is really a great satisfaction to get hold of an American treatise on Agriculture, that has a plain, practical, common sense character of *its own*. So many mere patchers and compilers are there, who, without any practical knowledge of their own, use their scissors shamelessly upon the productions of English authors, thus readily making *books* without taxing their own poor brains, books too, that are really of no value in this climate and country—books that only serve to puzzle and bewilder the farming novice—that, we repeat, it is with unusual satisfaction we have opened this new, compact duodecimo volume.

Mr. R. L. ALLEN, of Buffalo, the author of this work, is already known to the agricultural public as a thorough practical farmer and stock breeder. That he well knows what he is about on a farm, these pages abundantly show. No mere book-maker could have written such a book; and we may add, also, that no mere practical farmer could have written it. A "good practical work" can only be written by a man who has both thought and acted well.

What distinguishes this volume, is its conciseness, its clearness, and its perspicuous treatment of the subject in hand. The reason why most agricultural works are prolix and heavy, is because their authors had not made the subject thoroughly their own. No man can write clearly and plainly about what he possesses only indistinct and confused notions himself. And no man can have clear and distinct ideas, regarding any practical subject like agriculture, however conversant he may be with *Stephens' Book of the Farm*, *Loudon's Encyclopedia* or *Von Thaer's Principles*, unless he is able to digest all the more valuable theories contained in these

works in his every day practice. Otherwise it is only like Calvin Edson, the walking skeleton, dining on roast beef and plum pudding.

What American farmers want, as we conceive, at the present moment, are plain and sensible reasons for our best agricultural practice, as it is, and equally common sense hints and directions for its improvement. Books written upon such a plan, by competent men, will go a thousand times farther toward making good husbandmen, and improving those already skillful, than a republication of all the elaborate English, French, or German systems of draining, subsoiling, and irrigating, that the best authors of the other side of the Atlantic have yet produced.

It is idle to lay before farmers, in a country like ours, where capital is rarely or never employed in farming—where land is plentiful, but labor scarce and dear—systems of farming, based on just the contrary state of things—where farming is carried on with abundant capital, and where the price of labor and the means of tillage are such that it will pay a good interest upon the capital employed. It is very much like discoursing to the keeper of a "country store," upon the large principles of commerce which govern the transactions of such houses as the Barings, or Brown, Brothers, and Co.

We think, therefore, that Mr. ALLEN's volume, the basis of which is good practical farming, as practised by the best cultivators in the United

States—with an intelligent reference to those principles of science which lie at the root of all successful practice, is likely to be of as much or more real service to us, than any work on agriculture yet issued from the press, and we gladly commend it to the perusal of every one of our readers engaged in the cultivation of land.

Its character, indeed, is essentially that of a manual, or *handbook*. "It is intended," says the preface, "as one of the first in the series of lessons for the American farmer. Its size precludes its embracing anything beyond the shortest summary of the principles and practice by which he should be guided in the honorable career he has selected. As a primary work, it is not desirable that it should comprise so much as to alarm the tyro in agriculture with the magnitude of his subject. A concise and popular exposition of the principal topics to which his attention will necessarily be directed, will, it is believed, in connection with his own observation and practice, give him a taste for further research, which will lead him to the fullest attainment in agricultural knowledge, that could be expected from his capacity and opportunities."

This is a very modest introduction to a work, which, if only "a brief compend," contains less speculation, and more pith and sense, than one in a hundred of the volumes now being offered on the cultivation of the soil.—*Horticulturist*.

The above work is advertised for sale on our last page, price one dollar.

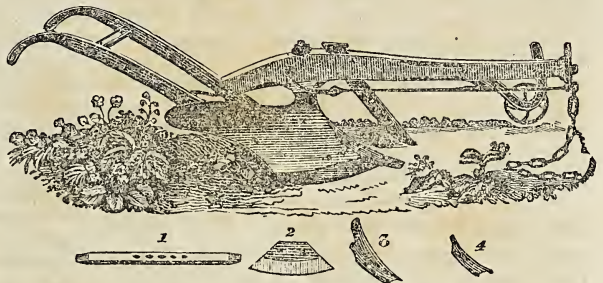
EAGLE SELF-SHARPENING PLOWS.

THIS is a new article, recently got up by Messrs. Ruggles, Nourse & Mason of Massachusetts. Five sizes are made, varying from the small one-horse plow, up to the large breaking up plow. They have the same superior form and general construction as the celebrated Eagle plows of their make, with the exception that the point and share consist of two pieces which are made on an improved self-sharpening principle.

The point, as shown detached at 1, is simply a bar of wrought iron steeled at each end, about twenty inches long, and passes upward into the body of the plow, where it is confined with one bolt. As it becomes shorter, and worn on the under side, it is readily moved forward and turned the other side up, thus always presenting a sharp point of full length and proper shape. When one end is worn off five inches, the other end is placed forward and performs a like service. The wing or share as shown, detached at 2, is either made of wrought iron with steel edge or of cast iron, and is also reversible, being used either end forward or either side up.

Both point and share are so very simply constructed that any blacksmith can replace them at trifling expense, or perpetuate the use of the original by new-laying with steel, as they become worn.

There is a coulter of cast-iron a little back and above the point, shown detached at 3, forming a part of a cap, shown detached at 4, which cap protects the shin or forward part of the mould-



A SELF-SHARPENING PLOW.—FIG. 9.

board. It is confined in its place by the same bolt that confines the point, and is cheaply replaced when worn. This is much less expensive, and in many kinds of soils quite as serviceable as a wrought coulter or cutter, as shown by the cut above. They are sold with one or both, or with the cap simply. We commend these plows particularly for the southern plantations, for their own blacksmiths can easily repair them.

Self-sharpening points and shares have been considered objectionable, inasmuch as they have not possessed sufficient strength, owing to their complicated construction of cast metal; but a single glance at these plows will convince any person, by the simple construction of the point and share of wrought iron and steel, that they combine strength and durability unequalled by any other form or construction, and that they are kept in repair at much less trouble and expense.

A MOWING MACHINE.

CAN any of our readers inform us where a mowing machine is to be had, which will do first rate work? We have seen them operate, but there was this objection—unless the ground was quite smooth they would not cut clean. The scythe in a reaping machine moves and cuts several inches above the ground, which enables it to work well over quite a rough surface. The straw being of little value, a long stubble left behind is of no particular importance. But grass it is important to cut close, or there will be great loss in the hay product. Hence the comparative difficulty of making a mowing machine which will work as economically and effectually as the reaper. Still, we hope mechanics will not despair of constructing one which will do its work well, for we do not know a greater desideratum among farmers. During harvest time, wages are not only exorbitantly high, but men enough to do the work are difficult to be obtained. The consequence is, that the grass is frequently injured, and great loss is often sustained. All this would be obviated with a good mowing machine.

FARMERS, SEND IN YOUR FACTS.—The old year has passed away, and nearly a month of the new one has expired, while we have been looking in vain for statements from the farmers of their large crops raised at a small expense and by improved cultivation. Why is this? Have there been no improvements the year past in our worn-out lands? or are the farmers and planters of the older settled States giving up discouraged and moving off West? This, we trust, is not the case, but the main difficulty is owing to modesty, or a want of confidence in their ability to write for the press. If they would make out plain statements of their farming operations, in their own way, however homely, much would not only be done to stimulate others to follow their example, but to go far ahead of them by competition and emulation.

AMERICAN AGRICULTURAL ASSOCIATION.

Introduction of the Alpaca into the United States.—Col. Edward Clark, chairman of the committee appointed by the Association for introducing this animal from Peru into this country, stated that there is a prospect of \$2,000 more being added to the funds already raised, and that it is contemplated to send an agent to South America the ensuing spring for the purpose of carrying the enterprise into effect. Col. Clark then called upon Mr. J. D. Williamson, who had resided some time in Peru, and requested that he would give some information upon the subject.

Mr. Williamson, in complying with the request, stated that the alpaca is an animal that endures a great deal of hardship, and that there is no doubt but it can be successfully and profitably propagated in the United States. He said that its habits are something like those of the Canadian horse—picking up what no other animal will eat, even while the ground is covered with snow. The reason, he said, why these animals have not succeeded better in Great Britain is that proper regard was not paid

in their selection in Peru, and that their treatment during their voyage and after their arrival was injudicious. He thought that choice animals could be obtained on the west coast of South America, for \$8 or \$10 each, and that they could readily be transported to Panama in whale ships, driven over to Chagres, and re-shipped direct for the United States.

The Potatoe Disease.—Vice-Chancellor McCoun rose and said, he wished to call the attention of the Society to a subject of great interest to this country as well as to the world at large—the *Potatoe Disease*. Before proceeding to the immediate object in view, he begged leave first to make a few remarks on the origin of the malady, which he said first broke out in Europe, in 1843. (a) In 1844 it made greater progress than in the preceding year, and in 1845, it had assumed decidedly the appearance of an epidemic—its focus being apparently Belgium, whence it seems to have spread to all parts of the globe.

The Chancellor then detailed various opinions and experiments of scientific men in Europe, among which were those recently made by Dr. Smee, of London, who has proved, to his own satisfaction at least, that the true cause of the disease is a species of *Aphis*, or plant louse. This insignificant insect, he said, attacks the leaf of the potatoe by sucking out the juice, generally by commencing on the under side, and continuing its operations until it extracts the whole moisture from the plant, which, in due time, dies down to the ground, and the tuber perishes or decays. (b)

The Chancellor concluded by saying that his object in introducing this subject was for the purpose of offering a resolution for the consideration of the Society, which was as follows:—

Resolved, That a Committee of five be appointed on behalf of this Association, to ascertain whether any species of *Aphis*, or other insect, is instrumental in causing the potatoe disease in this country. That, if such committee shall be unable to ascertain the fact, from any observations of the past year, they be requested to take the necessary measures to ascertain it during the ensuing season, by personal inspection of growing crops, or by any other means in their power.

This resolution was adopted, and the following committee were chosen, viz.—Vice Chancellor W. T. McCoun, Dr. A. H. Stevens, R. L. Pell, Dr. R. T. Underhill, and Ambrose Stevens.

Mr. Williamson read the following abstract, translated from the Transactions of the Viceroy of Santa Fé de Bogota, at the time it was under the dominion of Spain:—In 1762, the entire potatoe crop of all the provinces under the Viceroy, for that year and the year previous, rotted in the ground, or died while in a growing state. A commission was appointed to investigate the subject; and after visiting a large number of provinces they were unable to ascertain from what cause the rot proceeded, other than the potatoe had *run out*, or exhausted its vitality. From an old Indian slave, by the name of Leo, they learned that a tradition had been handed down by his tribe for more than a hundred years, that “when the potatoe did not grow good, they must plant the seed collected from the healthy vines, and

in a certain number of moons all would be right again."

In a report from one of the commissioners, made in 1767, it was ascertained that among those planters of the provinces who had propagated new varieties from the seed-balls of healthy tubers, not a rotten potatoe had been seen.

(a) During the last 10 years it has been observed in some parts of Germany, that the potatoe has exhibited a marked change in its vital powers, and as long ago as 1839, a disease appeared which, within a short time, destroyed thousands of bushels. This, however, was the dry gangrene (Kartoffelfäule), which speedily changed the tubers into a brown, dry powder, and rendered them unfit for every kind of use. The disease, at that time, was thought to be caused by small, white insects, resembling cheese-mites, which were found in the interior of the potatoe, and were believed to be transformed into living flies.

(b) The causes for the disease have been suggested to Professor Lindley, and commented upon by him as follows:—1. The bad season of 1845; 2. Attacks of parasitical fungi; 3. Insects, worms (the idlest of all speculations); 4. Frost; 5. Lightning; 6. Exhausted vitality; 7. Bad cultivation; 8. Guano or other manures; 9. Fog from the ocean; 10. Miasmata, such as produce cholera in man, and murrain in cattle. The last explaining an unknown cause by an unknown agency, whose mode of action in the first instance is beyond human perception, may be taken as the last and best refuge of theorists, for it is alike incapable of proof or disproof.

Of the remainder we shall only say that they appear to us to be all untenable. Even the season of 1845, which seemed to us and so many others peculiarly suited to bring on the affection, we long ago disclaimed as a true cause; for irresistible evidence to the contrary accumulated during the winter. In fact, no theory of the potatoe disease will satisfy the conditions of the problem, unless it explains the following unquestionable facts:—

1. It has for some years past been violent in St. Helena.

2. It appeared in the year 1845 at Genoa and Lisbon, and at Grahamstown in the Cape Colony, *exclusively* in potatoe crops obtained from English "seed," and therefore of the growth of 1844.

3. It appeared in 1845 in the Bermudas, in fields cropped with potatoes obtained from the United States, and not in those which had been cropped with Bermuda sets.

4. It has broken out in New Holland, upon the authority of Dr. Francis Campbell, in a letter to the Sydney Morning Herald, dated March 18th, 1846.

5. It was little known in bog or moss-land in 1845, and now has broken out there with as much violence as elsewhere.

6. It is accompanied by an increased excitability of the potatoes both young and old.

7. It *invariably* begins as a brown decay of the bark of the potatoe-stem, under ground, and an inch or two above its origin from the old set. To this we have never yet found an exception; all the blotching and searing of leaves are long posterior to this.

8. It has broken out at this moment (Aug. 12, 1846), in crops obtained on well-drained unmanured land from sets imported from Naples, the Azores, Oporto, and New Granada, every one of which places was reported to be uninfected—*Gardener's Chronicle*.

CULTIVATION OF THE WATER-CRESS.

THE common cress (*Nasturtium officinale*), well known for its highly salutary and antiscorbutic properties, presents two varieties, the *green* and the *blue*, which, like most cultivated plants, have been rendered far superior to what they were in their indigenous state; being less acrid, and not so liable to contract the taste of slime and mud as those found in marshes, ditches, and brooks. The history of the cultivation of this plant on the continent of Europe affords some interesting particulars, which will serve to exemplify the advantages that accrue, with proper attention, apparently from the humblest object.

About the beginning of the present century, an attempt was made to form cress grounds in the neighborhood of Paris, similar to those then common on the banks of the Rhine, by the Count de Lasteyrie; but without success; while the markets of that capital were supplied only by persons who travelled to distances, sometimes of 40 leagues, collecting the cress wherever it could be found. The supply was seldom sufficient to satisfy the limited demand, although it frequently consisted of nothing more than bunches of marshy plants masked by a few sprigs of the genuine vegetable. In the winter of 1809, Monsieur Cardon, then principal director of the hospital chest of the grand army, was quartered with his staff at Erfurt, the capital of Upper Thuringia. Walking one day in the environs of the city, when the earth was covered with snow, he was astonished by the sight of several long trenches, from 10 to 12 feet in width, covered with the most brilliant green. Curious to know the cause of what appeared to be a phenomenon at that season, he walked towards them, and perceived with the greatest surprise that the trenches formed a large plantation of water-cress, presenting the aspect of a verdant carpet on a surface in every direction white with snow. In answer to his inquiries, M. Cardon learned that the plantations had existed for many years, and belonged to the authorities of the city, from whom they were rented by the cultivators at the annual sum of \$12,000. Since that time, however, their value has greatly increased. From a statement published in 1830, we find that the annual return then amounted to more than \$40,000; and that the cress, highly esteemed for its purity and superior qualities, was sold in all the cities on the Rhine, and in the markets at Berlin, at a distance of 120 miles from the place of its growth. M. Cardon foresaw the benefits that might be expected to rise from the introduction of this branch of horticultural industry into the neighborhood of Paris; and, after a long search, found 12 acres of a thin sandy alluvium at St. Leonard, in the valley of the Nonette, between Senlis and Chantilly, which, containing many beautifully limpid springs at a temperature of 59°, appeared to be well adapted for a cress plantation. He engaged two well-informed individuals from Erfurt who were

acquainted with the method of cultivation. The ground was laid out in trenches of 250 feet in length by 12 feet in breadth; which were, however, afterwards reduced to one-half of those dimensions, as it appeared that the water lost its natural temperature, and froze in the winter, by flowing over so large a surface. In a few years, after an expenditure of \$16,000, there were 92,000 square feet under cultivation. It was no longer the cress clandestinely gathered, often in flower, or run to seed, that was exposed for sale in the French metropolis. The cress of St. Leonard arrived, packed with a care to which the Parisians were strangers. Its freshness and purity were such, that the market-women, of their own accord, offered double the usual price before any demand had been made; and, in testimony of their high satisfaction, feasted the journeyman cultivator who had come to superintend the sale, and the wagoner, and sent them home decorated with ribbons and flowers.

The French growers are particularly careful in warm weather, and guard the plants from exposure to the least storm, as they then turn yellow. They pack them in baskets, which contain from 25 to 30 dozen of bunches, so arranged as to leave a circular opening or chimney up the centre, which always remains empty. The baskets are then placed on rails fixed across a wagon, so as to permit a free current of air through all the openings; and in the summer, before putting on the tilt, the whole are well watered, to preserve their freshness during the night, and they are delivered at the market early in the morning in the most perfect condition. The regularity of the arrivals and constant freshness of the cress sent every day from the grounds of St. Leonard, not only insured the success of the scheme, but brought forward a host of competitors. M. Cardon's German workmen left him to commence rival establishments; and there are now in the environs of Paris 16 plantations, producing annually 1,350,000 dozen of bunches, valued at \$89,000; and, adding the charges of transport, and expenses of all the individuals employed in this branch of trade, which, a few years ago, had no existence, the sum actually circulated amounts to not less than \$300,000!

The culture of cress requires much attention and watchfulness, especially in winter, in which season, during a single night, a sharp frost may destroy a whole plantation, if too remote from the springs to retain their mild temperature. The ground is generally laid out in parallel trenches, separated by small mounds, on which succulent vegetables may be grown. The bottom should be covered with several inches of sandy vegetable earth, perfectly level and equalized, so that the water may have a regular flow in every part. The months of March, April, or September, are the most favorable for putting in the plants, which are generally set in suckers or tufts, 8 or 10 inches apart. A well-planted trench will be in full bearing after the first year, according to the temperature of the water and the nature of the soil. The activity of the vegetation depends particularly on the state of the atmosphere; but if the plantation has been made with care, and the plants well chosen, it will require no other precautions, with the exception of occasional weeding.

than those necessary to guard it from winter frosts, and the irruption of foul and muddy water in thaws and storms. In favorable seasons the cress may be gathered every three weeks; but in cold weather two months are sometimes required to bring the plants to perfection. After these gatherings, it is customary to roll and level the bottom of the trench, or to manure when required. A good plantation will last a long time; but it should be renewed by the same process as at first, whenever it shows signs of decay. Sometimes, in frosty weather, the supply of water is increased until the plants are completely covered; but as this submersion weakens them, it should not be continued longer than absolutely necessary. Mr. Loudon describes the process as follows:—Some market gardeners, who can command a small stream of water, grow the water-cress in beds sunk about a foot in a retentive soil, with a very gentle slope from one end to the other. Along the bottom of this bed, which may be of a convenient length and breadth, chalk or gravel is deposited, and the plants are inserted about 6 inches every way. Then, according to the slope and length of the bed, dams are made 6 inches high across it, at intervals; so that when these dams are full, the water may rise not less than 3 inches on all the plants included in each. The water being turned on, will circulate from dam to dam; and the plants, if not allowed to run to flower, will afford abundance of young tops in all but the winter months. A stream of water no larger than what will fill a pipe of an inch bore, will, if not absorbed by the soil, suffice to irrigate in this way an eighth of an acre. As some of the plants are apt to rot off in winter, the plantation should be laid dry two or three times a year, and all weeds and decayed parts removed, and vacancies filled up. Cress grown in this way, however, is far inferior to that grown in a living stream flowing over gravel or chalk.

PRESERVATION AND APPLICATION OF MANURES.—No. 2.

In your August number, p. 250, vol. 5, I presented some reflections on this important subject, and indicated an intention to renew it in a future number. Some delay has been occasioned by indispensable engagements. I now propose to complete the remarks I intended to make.

In my former number it was shown that, except *nitrogen*, the *organic* substances which are required as food for plants, are furnished in sufficient abundance from the elements of water and the atmosphere. That, in the opinion of Liebig, "the most important object of agriculture is to furnish the soil with *nitrogen*, in a form capable of assimilation;" and, I added, that it was equally important, "when alkalies are deficient, or when they have been exhausted, that they should also be supplied." It must, however, be recollected, that where *alkalies* are deficient in a soil, they may be *substituted by alkaline earths*. "The principal problem for agriculture is how to replace those substances which have been taken from the soil, and which cannot be furnished by the atmosphere." It was shown in my former number, that the most important of these are "the alkalies and the alkaline earths; phosphates, silica, manganese, oxides of iron, and various acids, com-

bined with alkalies, and alkaline earths." Liebig remarks, in the letter above referred to, that the barrenness of a field is not owing to a deficiency of carbon, because we are able to increase its produce by supplying substances that contain no carbon. He adds, "in furnishing plants, therefore, with mineral elements, we give them the power to appropriate carbon from a source which is inexhaustible; while, in the absence of these elements, the most abundant supply of carbonic acid, and of decaying vegetable matter, would not increase the produce of a field."

In various parts of Liebig's letters on chemistry, from which the above is quoted, he enforces in the strongest manner the necessity of a complete supply of the alkalies, alkaline earths, and other mineral elements, in all soils; and declares that their barrenness arises solely from a deficiency in these elements, which are derived from the soil; and nitrogen, which, though derived from the atmosphere, is not supplied in adequate quantity from that source.

Without making farther quotations from the highly valuable letters referred to, I would advise all who wish to obtain full information on this interesting subject, to study them diligently, as they contain in a small compass a great deal of valuable information in relation to the true cause of the exhaustion of soils—which, in his opinion, is owing more to the diminution of mineral elements than to any other cause. Taking it for granted, then, that all that is necessary to preserve and perpetuate the fertility of our soil is to keep it sufficiently supplied with nitrogen; and with the substances above enumerated which growing plants must derive from the soil, I will endeavor to explain in your next number how this can be best accomplished.

Prospect Hill, Ky., Jan. 8th, 1847. A. BEATTY.

THE LAND SABBATH.—In the Mosaic code, it was required that the land should rest from tillage every seventh year, which was undoubtedly intended to prevent the soil from being worn out by excessive cultivation, a religious sanction being given to this law to prevent its infraction. Moses, in describing the calamities that would follow from its disobedience, says:—

"Then shall the land enjoy her sabbaths as long as it lieth desolate"—*Leviticus xxvi., 34.*

Thus plainly indicating that, if not permitted to rest from tillage, land would become exhausted and lose its fertility by the short-sighted policy of man. Hence the advantage of suffering worn-out lands to lie in fallow, or to grow up with trees, in order to restore them to their original fertility.

INTERESTING CHEMICAL FACTS.—Water saturated with one-third of its weight of common salt will still dissolve sugar; and if completely charged with carbonic acid, it will dissolve iron.

Water in freezing expands by nearly one-seventeenth of its volume. It also expands while cooling in a liquid state from 39.39° F. to 32°.

Starch becomes sugar by boiling 48 hours in 100 parts of water and 1 part of sulphuric acid.

ANALYSIS OF THE OAT.—No 1.

A CHEMICAL inquiry into the nature of the oat would be of importance in almost any part of Europe, but it becomes a kind of national object in a country where, as in Scotland, oatmeal forms almost the sole food of a large portion of the population. But though Scotchmen have long fed and thriven upon it, and have carried their estimation of its virtues to every quarter of the globe where their adventurous footsteps have penetrated, the true properties of the oat, its chemical constituents, the physiology of its growth, have been almost unnoticed. The few investigations hitherto published have been of a partial character. Hermbstädt and Sprengel were among the first who made experiments on the subject at all worthy of confidence. More lately Boussingault has published a single analysis; but no researches of an extended nature have hitherto been published.

To the Highland and Agricultural Society belongs the honor of first encouraging an extended inquiry for the purpose of increasing our knowledge as to the general value of the oat, as food for man and beast, and as to other points, physiological and practical, connected with its growth and cultivation. The encouragement of such researches is well calculated to retain for the Society its high position, and if possible to increase the estimation in which it is held, as the parent of the Agricultural Societies in the British Islands.

In the laboratory of the Agricultural Chemistry Association, Mr. John P. Norton, now pursuing his studies at Utrecht, in Holland, enjoyed great advantages for the prosecution of such an investigation. The kindness of Professor Johnston afforded him every facility, while his great experience pointed out the proper method for the prosecution of his inquiries.

In the detail of Mr. Norton's results, he has endeavored so to arrange them as to present a distinct connected view of the whole investigation, such as is necessary for its full appreciation. He commenced with that which naturally comes first, the young plant, and followed it through its successive stages of growth and development to maturity. This part of the subject completed, he proceeded to the consideration of the full-grown plant.

The result of Mr. Norton's inquiries was published by the Highland Agricultural Society, from whom he received a premium of FIFTY SOVEREIGNS (\$250). As his Essay contains a larger amount of truly scientific and practical information on the oat than has hitherto been published, we propose to give it a place in our journal, in a series of numbers, hoping in so doing that it will not only be acceptable to our readers, but will tend to promote the culture of this important grain, and point out the modes of expending it to the best advantage.

(A)—OF THE QUANTITY OF ASH YIELDED BY THE SEVERAL PARTS OF THE UNRIPE PLANT.—As soon as the plants were received, portions of the several parts were weighed for the purpose of determining the water, and dried at a temperature not exceeding 212° Fahrenheit, until their weight became constant. At least three separate portions of each part were taken to provide for accidents, and to secure, at least, two concurring determinations.

TABLE 1.

Day of the Month received.	June 4.	June 11.	June 18.	June 25.	July 2.	July 9.	July 16.	July 23.	July 30.	Aug. 6.	Aug. 13.	Aug. 20.	Aug. 27.	Sept. 3.
Per cent. of Water.....	80.51	82.76	82.02	78.53	80.26	76.97	76.53	77.61	77.00	76.63	74.06	79.33	70.68	24.60
Per cent. of Ash.....	2.16	1.86	1.63	2.35	2.24	2.81	3.06	3.85	3.78	3.75	6.14	4.25	6.49	15.78
Do. calculated dry.....	10.83	10.79	9.07	10.95	11.35	12.20	12.61	16.45	16.44	16.05	20.47	21.14	22.13	20.90

During the whole growth of the plant the diminution in the quantity of water in the leaf was not great, being only about 10 per cent. from the 4th of June to the 27th of August. So late as the 20th of August it was nearly as high as at first. When the plant becomes ripe, however, the leaf at once withers, and this accounts for the great decrease of water between the 27th of August and the 3d of September. This decrease in the water gives a great apparent increase of ash in the undried leaf. When calculated dry, in the third line, there appears an actual decrease from the two preceding weeks. There may have been some change in the circulation at the last, by which a portion of the inorganic materials were carried back into the stalk.

Of the Stalk.—The per-centages of water, of ash, and of ash calculated dry, were determined as in the leaf.

TABLE 2.

Day of the Month received.	June 4.	June 11.	June 18.	June 25.	July 2.	July 9.	July 16.	July 23.	July 30.	Aug. 6.	Aug. 13.	Aug. 20.	Aug. 27.	Sept. 3.
Per cent. of Water.....	87.04	87.05	87.13	84.74	83.66	82.05	80.85	79.60	76.64	75.66	69.80	76.27	71.57	71.70
Per cent. of Ash.....	1.36	1.28	1.28	1.40	1.28	1.40	1.52	1.63	1.74	2.01	2.00	1.58	2.19	2.36
Do. calculated dry.....	10.49	9.88	9.32	9.17	7.83	7.80	7.94	7.99	7.45	7.63	6.62	6.66	7.71	8.35

While the above were drying, others were weighed from which to determine the ash. The burning was always effected in platinum vessels over argand gas-burners, and at a dull red heat.

The first specimens of the young plant arrived on the 4th of June, and the succession at weekly intervals was uninterrupted until the cutting of the crop on the 3d of September. The oats were of the potatoe variety, and though retarded by the unusually wet season, were uniformly strong and healthy, the sample proving one of uncommon excellence. The plants on the 4th of June were from 4 to 6 inches in height, consisting merely of one leaf, and the commencement of the stalks. These two parts, therefore, are first to be considered, as to the quantity of ash which they yield.

Of the Leaf.—The preceding table exhibits the proportions in the leaf at successive stages of its growth—1. Of Water. 2. Of Ash. 3. Of Ash calculated dry.

The decrease of water during the growth of this part is considerably more than in the leaf. The quantity of ash in the undried straw (second line) increases toward the end, as in the undried leaf. This, in both cases, is owing to the gradual disappearance of the water; for we see, in the third line, that the actual per-centage of ash in the *dried* stalk, is less on the 3d of September than it was on the 4th of June. In the earlier growth of the stalk the dried stem or solid part, though less in quantity, actually contains a larger per-centage of ash than is afterwards necessary to its perfect maturity. As the stalk is the stem of the plant, through it must pass the inorganic materials necessary for the building up of all the other parts. How wise the provision, which enables it to furnish an abundance of these materials at the time when they are most needed! Between the 6th and the 27th of August the demand upon the straw was very great; at this period the grain was most rapidly attaining its full size; the leaf also between the 13th and the 20th of August increased its per-centage of ash from 16 to 21. When these parts have attained their full size, and approach maturity, the ash in the stalk begins to accumulate again, as is seen in the two last weeks. This is at the same time that the decrease in the leaf mentioned above takes place.

From the very large per-centage of water in the stalk on the 3d of September, when the oats were cut, it is evident that there must be an immense diminution during the drying of harvest, as I have seldom found more than 13 or 14 per cent. of water in straw taken from a well-made stack. This will appear in a subsequent table.

Of the Quantity of Ash in the Knots.—It was not until the 23d of July that determinations of ash and water in the knots were commenced. Professor Johnston has stated in his *Elements of Agricultural Chemistry*, some curious facts respecting the knots in the stalks of wheat, rye, bamboo, &c. He says, that the ash of this part is larger in quantity, and contains a greater proportion of silica, which in the bamboo is sometimes found in solid masses. To ascertain if the quantity of ash in the knots of oats varied greatly

from that in the whole straw, these trials were made.

The variation in the per-centage of water in this table is not large. The

ash is, in accordance with Professor Johnston's results, larger in quantity than in the straw, taken as a whole. The difference in the ripe plant amounts to 2 per cent. But in Table 2 the ash is given from the whole straw, including the knots; the difference therefore between the knots and the straw, taken separately, would be at least 4 per cent. The variations in the per-centage of ash, shown by the above table, are not very striking.

Of the Quantity of Ash in the Chaff.—The determinations of ash and water in this part of the plant commenced on the 16th of July. I must here mention, that by the chaff I mean the outer covering which envelops the oat during its growth, becoming looser as it ripens, and finally falling off during thrashing. Per-centage of ash and water exhibited as before.

The quantity of water given by Table No. 4, is much less, while that of ash is much greater, than in any other part of the unripe plant. The

extraordinary quantity of 27 per cent., as given in the third line, is very remarkable. It is to be observed, however, that in no other specimen of chaff have I found so high a per-centage. The crop, as I have before stated, was unusually vigorous, and grown on a deep rich loam, where everything it required seems to have been in abundance, and the per-centage of ash in every part is uncommonly large. It will be noticed that the increase of ash is more steadily progressive than in any of the other parts.

Of the Quantity of Ash in the Oat.—It is necessary for me here to explain, that, in speaking of the Oat, I always mean the seed and husk together. By the Grain, I mean the seed divested of its husk. This distinction will prevent confusion. The oats did not become sufficiently developed for separation from the stalk until the 2d of July. The same treatment was pursued as with the other parts, and the following table exhibits the results.

During the growth of this part of the plant, the per-centage of water steadily decreased to considerably less than one-half of the original quantity. As in the stalk, this has caused an apparent increase of ash (second line), but when calculated dry (third line), there

is an actual decrease. This diminution of ash occurs only in these two parts of the plant. I have already given a probable explanation of the cause in the stalk, and think that one equally simple may be given as to the oat itself. Every one who has noticed its growth, knows that the husk, being necessary for the protection of the grain, is formed first, and attains nearly its full size while the grain is yet scarcely visible. A subsequent table will show that the husk contains about three times as much ash as the grain. During the first growth of the oat, this husk, requiring an abundance of inorganic materials, is to be formed, and we accordingly find such a proportion of these materials present, as are not found at any subsequent period. When the husk is formed the grain enlarges, and as it gradually becomes three-fourths of the oat, the per-centage of ash, taking the two together, of course diminishes. By reference to Table 2 it will be seen, that on the second of July, just when the oat began to show itself, a sudden decrease took place in the ash of the stalk. The per-centage of water in the oats when the crop was cut, on the 3d

TABLE 3.

Day of the Month received.	July 23.	July 30.	Aug. 6.	Aug. 13.	Aug. 20.	Aug. 27.	Sept. 3.
Per cent. of Water, - -	76.05	75.54	74.82	75.29	75.38	73.55	70.65
Per cent. of Ash, - -	2.40	2.54	2.63	2.80	2.90	2.98	3.14
Do. calculated dry, - -	10.02	9.60	10.44	10.48	11.79	11.27	10.70

TABLE 4.

Day of the Month received.	July 16.	July 23.	July 30.	Aug. 6.	Aug. 13.	Aug. 20.	Aug. 27.	Sept. 3.
Per cent. of Water,	55.01	56.95	50.49	45.04	40.86	47.08	40.44	21.96
Per cent. of Ash,	2.72	3.92	6.08	7.83	11.05	11.20	13.38	21.43
Do. calculated dry,	6.00	9.11	12.28	13.75	18.68	21.07	22.46	27.47

TABLE 5.

Day of the Month received.	July 2.	July 9.	July 16.	July 23.	July 30.	Aug. 6.	Aug. 13.	Aug. 20.	Aug. 27.	Sept. 3.
Per cent. of Water,	80.84	75.56	69.83	63.22	62.06	62.44	55.11	49.76	45.92	30.74
Per cent. of Ash,	0.94	1.02	1.17	1.33	1.60	1.62	1.87	1.83	1.90	2.53
Do. calculated dry,	4.91	4.36	3.38	3.62	4.22	4.31	4.07	3.64	3.51	3.65

of September, was more than twice as much as I have found in those taken from the granary or stack-yard.

Heretofore I have only spoken of the quantity of ash yielded by the several parts of the plant; I now would direct attention to the composition of this ash, which will constitute the second division in the series.

REMARKABLE INSTANCE OF THE VEGETATION OF MAIZE.—In the year 1754, a member of the Bath Society, England, obtained, while at Strasburgh, an ear of Indian corn, which was preserved with the husks on until the 28th of February, 1788, when six grains were taken from it, soaked in water 24 hours, and planted in earthen pots, in a hot-house. In about twenty days they began to appear, and four out of the six grew to about the height of three feet, and two produced ears completely formed. The pots were taken out of the hot-house the latter part of June, and the ears were gathered the beginning of October. Six other grains taken from the same ear were planted in a garden without soaking, but showed no signs of vegetation.

THE ARMY WORM.

The destruction of the army worm will be greatly facilitated when the Southern planters become better acquainted with the history of insects in general. I therefore add to my observations in your last number a few remarks in answer to your correspondent whose letter has not been published, and who appears earnestly to desire information founded on "fact," but not on "theory." I will begin by stating that insects classed under the generic term, *Lepidoptera*, are butterflies, moths, and sphinges. Their larvæ are caterpillars, and have six true legs, and from four to ten fleshy prolegs. Pupæ, with the cases of the wings indistinct, and soldered to the breast. Some kinds of caterpillars are domestic pests, and devour cloth and animal substances; but the greater number feed wholly on vegetable food; certain kinds being exclusively leaf eaters, while others attack the buds, fruit, seeds, bark, pith, or roots of plants.

All of these have different modes of feeding, and protect themselves from injury as their necessities may require. Some spin sacks almost as soon as they are excluded from the egg, which they carry with them, and into which they retire as danger approaches, protruding their bodies all but the hind feet, when feeding or moving from place to place. For example, the bee and woollen moths, &c., when about to change to the pupa state, creep into some secure place, attach one end of the sack firmly to the wall, closing both ends, and there hang until they take wing. Others feed in large companies protected by a canopy of silk which they spin, enlarging their tent as they increase in size, and spread over the branches, sometimes covering the whole tree, to the destruction of every green leaf. Some come in countless numbers, and, unprotected, go forth like the simoom of the desert, blasting everything in their path; while others feed in solitude and depart: but all submit to the general laws by which the order is governed. They are all hatched from eggs deposited by a fly—live from three to six weeks in the worm or larva state—change to a chrysalis or cocoon, and then attain their perfect form. When the larva of the butterfly is about to change, it finds a retired nook, suspends itself by a strong silken band at the tail, and another round the body, throws off the outer skin, the under one becoming the puparium or case. The larva of the moth generally spins a silk covering like a ball, to protect itself from the weather, or the attacks of birds and ichneumons (an insect whose larva feeds in the body of the caterpillar, and by whose agency millions are destroyed), while some, like those of the sphinx, creep into the ground to undergo the change; the outer skin becoming the puparium. To this tribe belong the worms which feed on the tomato, the tobacco, and the potatoe; and I suppose the greenish worm with white stripes, described by your correspondent, that "ate holes in the leaves of the cotton plant, and then departed, God knows where." A few well attested facts like these, widely disseminated amongst the planters, might put to flight the thousand wild theories that are now puzzling them, and induce them to adopt some rational mode of arresting the evil. All agree that the worms spin their

cocoons on the old cotton plants and neighboring weeds. Then why not make bonfires all over the fields and burn them? Millions would be thus destroyed, which, if suffered to remain, will become moths next year, and do as they have done this summer, devastate the country, unless some unforeseen agency should come to the planter's relief.

I would earnestly recommend to farmers and planters generally, the perusal of a few of the standard works on insects that are to be procured at all the principal towns, such as "History of Insects," Harpers' Family Library—"Insect Transformation," and "Insect Architecture," Library of Entertaining Knowledge; and above all that most fascinating volume of Kirby and Spence on "Entomology," published by Lea and Blanchard, Philadelphia. In these works the reader will find no scientific terms to disgust and tire, but will rise from the perusal a new man, and go forth into the fields perceiving that all is order and beauty and loveliness, and that order is indeed "Heaven's first law." He will find that in their order, insects have an important place assigned them in the economy of nature; and while restrained within due bounds, most nobly do they perform their part.

In the "Old Lady's Diary," I find a sentiment worth remembering: "An evil investigated and understood is half remedied." M.

December 28th, 1846.

HINTS TO AMERICAN FLAX-GROWERS.

THE consumption of foreign flax in Great Britain amounts to something like 70 to 80,000 tons annually, and comprises the growths of Russia, Prussia, Holland, Belgium, and some of the northern provinces of France. The produce of the two first named countries will, on the average of years, range from £28 to £56 sterling, per ton, or say, 6 to 12 cents per lb.; while the produce of the three last named countries and Great Britain, will range from £45 to £80 per ton, or, say, from 10 to 18 cents per lb. The difference between the two being partly owing to inferior climate, but mainly to inferior skill in its preparation for the market. I should remark, however, that while a part of the Baltic flax brings a price as low as £28, by far the greater part will command a higher price, say from £41 to £56 per ton.

Now, how does American flax stand in comparison with this state of things? I am informed that its average range of price is from 6 to 10 cents per lb.; thus showing that with climate, soil, and every natural advantage far superior to the most favored countries—America is unable to compete with the worst. I have no hesitation in saying that the fault is with the grower, as I saw 100 tons of American flax the other day possessing all the native essentials of first rate flax, but which bore strong testimony against its growers for their negligence. This parcel had been bought in at the prices I have named.

Now, when we recollect that the market offers cent. per cent., in price as a reward for improvement, surely the attempt to reach it is worth making, more especially when we reflect that if all the difference is not obtained; yet for every step the farmer makes in advance, the markets offer him his

reward, and let me add that granting that cotton may, by its increased consumption, lessen the demand for flax, yet it affects only the lower qualities.

JOHN PARKER.

New York, Dec., 1846.

NEW SEEDLING POTATOES.

In consequence of the degeneracy of the potatoe and its liability to run out, or at least to become comparatively worthless, I have been experimenting for six years in producing new varieties from seed. From the ravages of a small black bug, my efforts for the first two years proved entirely futile. The third year, by protecting the very small, tender plants with thin bats of tow, for many days after they first sprang from the earth, I succeeded in growing about twenty, which I also protected from the autumnal frosts, as long as they would grow, by means of blankets and boards. From these plants I succeeded in gathering about three quarts of very small tubers, consisting of more than a dozen varieties, all sound and healthy, when dug, most of which remained so until the time of planting the next spring. In consequence of severe frosts and droughts, it was with some difficulty that I succeeded in cultivating them; but I can now say that I have on hand, in my cellar, in good and healthy condition, about 100 bushels of four-year-old seedlings, and about 10 bushels from seeds sown last spring; also a quantity of seed suitable for sowing, from my last summer's crop.

The distinct varieties in the four-year-old seedlings, are now fully developed, the four best of which bear among us the following names:—"Buffalo Pinkeye," "Russeting," "Rose," and "American Producer." During the last two years, I have tested these varieties, and for beauty, solidity, quality, and productiveness, I have never seen nor heard of their equal. The Pinkeye resembles the old potatoe bearing that name, but in every particular is superior. For this variety I was awarded, at the late State Fair at Auburn, the highest premium on seedling potatoes. The Russeting is so called from its resemblance, in color, to the russeting apple or pear. It is very hard and white in the interior, very early, and of the finest quality for the table. The Rose resembles, in appearance, at the seed end, very much the flower after which it is named. The American Producer is rather long, with a rough, though healthy skin, and is remarkably productive. This variety, as well as the rose potatoe, is of fine quality, both for the garden and the table, but is more particularly adapted for field culture and for feeding.

As to the productiveness of these four varieties, I think that ten bushels planted in good soil, with proper culture, will produce in a favorable season, 50 fold. I planted, in a drill, one pinkeye, last spring, making of it, thirteen hills, along side a row of tomatoes, and as I thought, at a proper distance from it; but when both began to spread, the potatoes were badly shaded. The drought and tomato vines entirely destroyed two hills, and very materially injured the whole. Notwithstanding this, I gathered in the fall from the eleven remaining hills, a full half bushel of beautiful Buffalo Pinkeyes.

Among the varieties from which I first gathered my first balls for seed was the long and round pinkeye, mercer, kidney potatoe, orange, large flesh-colored, peach-blow, and several others. The tubers from the seed of the pinkeye have been planted in regular succession three times, with a very perceptible improvement each year. Among these tubers are represented the old pinkeye, mercer, rough-skin, flesh-colored, and peach-blow. The first year from the seed, the tubers were very small; but, during the three succeeding years they have materially improved. The vines are very large at the roots and spread on the ground much like those of the tomato; and while in many fields of the old potatoe, not a seed-ball could be found, they were very large and abundant on my new varieties, bending the stalks to the ground. Among my common pinkeyes, mercers, flesh-colored, English-whites, and orange potatoes, not a single ball could be found, although planted in the same field, at the same time, and in the same drills with my seedlings, with their subsequent culture in all respects alike.

The culture of my seedlings, from the commencement of the experiments, has been but ordinary; yet they have produced abundantly. But the greatest improvement is seen in the seedlings of 1836. Last spring, I sowed in a bed six feet square, about a thimbleful of potatoe seeds which I gathered from my seedlings of the fall previous. When about as large as small cabbage plants, I transplanted into drills prepared for them with a light plow. I set them, one in a place, at a distance of about two feet, and paid particular attention to their culture. The vines were so small when they first sprang up from the soil that they could not be seen at any distance; but at the time of digging they covered the entire surface of the ground, were very bushy, perfectly green, and as large as the round of a common chair. On the roots of some of the plants, I counted from 500 to 1000 tubers, varying from the size of a goose-egg down to that of a squirrel shot. From the crop of the thimbleful of seeds, I gathered about twelve bushels of potatoes, to all appearances perfectly healthy. The greatest weight from one vine was 3½ lbs. Among my young seedlings I expect to find next fall a rich variety strongly marked with purple ground and with white eyes.

I take great pleasure, not only in these interesting experiments, accompanied as they are with entertaining and healthful employment, but in presenting to the public these new products, and at a time too when the whole world is so deeply interested in this subject. It is my intention to give this experiment particular attention for years to come; and should there be any farmers, city gardeners, and others, either at home or abroad, who would like to obtain, next fall, seed from my tubers of 1846, or the tubers themselves, for the purpose of planting or experiment, I shall be happy to supply them on reasonable terms, and thus contribute, not only to the pleasure and benefits of the purchasers in the delightful experiment in their own garden or field, but also in arresting the great calamity now realized in almost every nation on the globe.

N. S. SMITH.

Buffalo, Dec., 28th, 1846.

THE CORN OR FLY-WEEVIL.—No. 1.

THE "Farmers' Cabinet" of the 16th inst., contains a notice of the appearance of a strange insect, which had escaped from some grains of Indian corn, in Germantown, Pa., with a letter from Dr. T. W. Harris, of Harvard University, who states that a similar fact had been observed in Worcester, Mass., and made known to him about two years since; and that it is the same insect that destroys wheat in Virginia, and some of the Southern and Western States, and appeared in the provinces of La Vendée and Angoumois, in the west of France, more than 100 years ago. Being a farmer, and having suffered greatly from the depredations of this insect for many years, I have taken pains to observe its habits, more especially to investigate the conditions most favorable to its development, and the extent of its ravages, the results of which were published in the "Farmers' Register," vol. i., pp. 325 and 463. (a)

Several insects, very different in their appearance and habits, are called by the general name of "weevil," which has served much to confuse the prevailing and erroneous opinions concerning them. The insect under consideration, in its perfect state is a moth of a dirty, pale-yellow color, about a third of an inch in length. Its flight is awkward and feeble, and its body is so soft and tender that it is liable to be broken from a very slight cause. The males and females leave their places of concealment in wheat stacks and corn-houses, just after sunset, and their flight abroad, is well marked by the concourse of bats and night-hawks, which are engaged in pursuing and devouring them. (b)

In the moth, or perfect state, this insect can do no harm to grain; but in the larva or maggot state, the grain is not only injured by devouring a large proportion of its internal substance, but by remaining for a time, therein enclosed, and finally leaving its excrement, cast-off skin of the chrysalis, and often, also, the dead moth itself, when the closeness of the bulk of grain prevents its escape. It is manifest that no insect depredation can be more destructive to the value of grain, and that no ravages can be more complete and extensive than where these weevils are very numerous. Where the climate is favorable to their development, and other circumstances are not unfavorable, there is no limit to their destructive effects before every grain of wheat or corn has been made the food and habitation of a disgusting maggot. Such great extent of injury, however, is rarely seen, except under the most favorable circumstances. When Indian corn ripens while the weather continues warm, a few weevil eggs are often deposited on the upper ends of the ears, which protrude from the shuck or husk. These eggs soon hatch and the larvæ gnaw into the grains, and sometimes undergo their transformations in the field, before the coming of frost, which is manifest from the perforations made by the escaped moths. The earliest kinds of corn, of course, are most exposed to the attacks of these insects, and hence are objected to, by some, as being more liable to be weevil-eaten the following year. The eggs which are laid and hatched in autumn on new corn, are too few to cause any ap-

preciable damage, could the further propagation be arrested. But the eggs, and perhaps the insects, in the larva and chrysalis states, if not killed by an unusual severity of cold, will remain torpid during the winter and spring, and do not begin to reproduce before the next summer. In June or July, the first brood of moths comes out in very small numbers; and as the corn is usually stored in ears, in open cribs, it permits their escape from nearly every grain, and likewise a free access to other grains for subsequent laying. Like most of the insect tribes, it may safely be inferred that the fly-weevil lays a considerable number of eggs, and that the progress of her progeny is very rapid from the egg to the moth. I found that the several stages were passed through from September 2d, to October 6th; and in the hotter weather in August, the time probably would not have been so long by one-half. In the climate of lower Virginia, it may be supposed that there are at least five successive generations from June to October. In this manner, their propagation, if not prevented by some means of destruction, would be in geometrical progression, increasing by a very large ratio; and their number, at the end of a few generations, might increase to an extent that would at first seem almost incredible. For instance, let us suppose the eggs laid by each female to be 200, which is not an extravagant supposition, and that four generations are produced during the year, exclusive of the parent moth; allowing half the number to be males, and consequently not counted, and the result would be as follows:—The second generation of females would be 100; the third, 10,000; the fourth, 1,000,000; and the fifth, 100,000,000. By adding to these 100,000,000 males, the whole number of the fifth generation would amount to 200,000,000! The enormous magnitude of this number may be better conceived when I state there are not so many grains of corn in 1,100 bushels!

If, then, this weevil is thus increased in rapid and successive generations, it is obvious that the best and most sure course for prevention is to attack them in the earliest stages of their existence. For the destruction of only one female, of the first brood may cut off the production of 100,000 in after generations, notwithstanding the number destroyed by accident, or enemies, which they naturally have to encounter. Fortunately, however, the prodigious increase of this insect is held in check by its frail tenure of life, and its great increase may be as easily restrained by care and judgment, as it is extended and rendered ruinous by inattention and neglect; and this I propose to show in a future number. EDMUND RUFFIN.

Marlbourne, Va., Nov. 29th, 1846.

(a) In the year 1768, Colonel Landon Carter, of Sabine Hall, Va., communicated to the American Philosophical Society at Philadelphia, some interesting "Observations concerning the fly-weevil that destroys wheat," which were published in the first volume of the transactions of that Society, followed by some interesting remarks on the subject by the committee on husbandry. The same insect has also been known for more than forty years

in Maine, New Hampshire, and probably all the New England States.

(b) The following particulars concerning this insect were compiled by Dr. Harris, chiefly from Réaumur's "Mémoires," and from a work by Duhamel du Monceau and Tillet, who were commissioned by the Academy of Sciences of Paris, in the year 1760, to inquire into the nature of the insect, on account of its ravages in Angoumoise, a part of France where it had long been known, and had multiplied to an alarming extent. The Angoumois moth, or *Anacampsis cerealella*, in its perfected state, is a four-winged insect, about three-eighths of an inch long, when its wings are shut. It has a pair of tapering curved feelers, turned over its head. Its upper wings are narrow, of a light brown color, without spots, and have the lustre of satin; they cover the body horizontally above, but droop a little at the sides. The lower wings and the rest of the body are ash-colored. This moth lays its eggs, which vary in number from sixty to ninety, in clusters, on the ears of wheat, rye, and barley, most often while these plants are growing in the field, and the ears are young and tender; sometimes also on stored grain in the autumn. Hence it appears that they breed twice a year; the insects from the eggs laid in the early part of summer, coming to perfection and providing for another brood of moth-worms in the autumn. The little worm-like caterpillars, as soon as they are hatched, disperse, and each one selects a single grain, into which it burrows immediately at the most tender parts, and remains concealed therein after the grain is harvested. It devours the mealy substance within the hull; and this destruction goes on so secretly, that it can only be detected by the softness of the grain or the loss of its weight. When fully grown this caterpillar is not more than one-fifth of an inch long. It is of a white color, with brownish head; and it has six small jointed legs, and ten extremely small wart-like prolegs. Duhamel has represented it as having two little horns just behind the head, and two short bristles at the end of its tapering body. Having eaten out the heart of the grain, which is enough for all its wants, it spins a silken web or curtain to divide the hollow, lengthwise, into two unequal parts, the smaller containing the rejected fragments of its food, and the larger cavity serving instead of a cocoon, wherein the insect undergoes its transformations. Before turning to a chrysalis it gnaws a small hole nearly or quite through the hull, and sometimes also through the chaffy covering of the grain, through which it can make its escape easily when it becomes a winged moth. The insects of the first, or summer brood, come to maturity in about three weeks, remain but a short time in the chrysalis state, and turn to winged moths in the autumn, and at this time may be found, in the evening, in great numbers, laying their eggs on the grain stored in barns and granaries. The moth-worms of the second brood remain in the grain through the winter, and do not change to winged insects till the following summer, when they come out, fly into the fields in the night, and lay their eggs on the young ears of the growing corn. When damaged grain is sown it comes up very thin; the infected kernels never

sprout, but the insects lodged in them, remain alive, finish their transformations in the field, and in due time come out of the ground in the winged form.

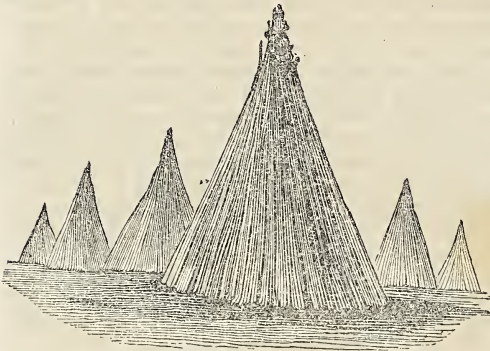
BRITISH AND IRISH FLAX CULTURE.—No. 4.

Steeping.—Mr. Henderson, of the county of Derry, stated that, flax is subject to injury from neglect, in every process, but in *this especially*. The water brought to the pond should be pure from all mineral substances, clean and clear. The water of large rivers is generally to be preferred, but spring water, which has run some hundred yards, becomes soft, and will have deposited any mineral impurities it contained. Immediately from the spring, it seldom does well. If the water be good and soft, it is injurious to allow it to stagnate in the pond, before steeping. I put in two layers, each somewhat sloped, with the root end of each downwards; one layer is said to be safer, and perhaps is so, though I have tried both, and see no difference. It should be placed rather loose than crowded in the pond, and laid carefully, straight and regular. Having an abundant supply of water, I do not let it into the pond till the first layer is in. I cover with moss sods (from the turf banks), laid *perfectly close*; the sheer of each fitted to the other. Thus covered, it never sinks to the bottom, nor is it affected by air or light. It is generally watered in 11 to 13 days. A good stream should, if possible, always pass over the pond; it carries off impurities, and does not at all impede due fermentation—flood and all impure water should be carefully kept off. The Dutch test of being sufficiently watered is certain and perfect, at least I never found it otherwise. It is this:—Try some stalks of average fineness, by breaking the woody part in two places about three inches apart, at the middle of the length; catch the wood at the lower end, and if it will pull out (downward) for those three inches, freely, without breaking or tearing the fibre, it is ready to take out. This trial should be made every day, after fermentation subsides, for sometimes the change is rapid. Flax is more frequently injured by too little than too much of the water. Great care and neatness are necessary in taking out. Broken or crumpled flax will never reach the market. Spread the day it is taken out, unless it is *heavy rain*—light rain does little harm; but in any case, spread the next day, for it will heat in the pile, and that heating is destructive.

The only real difficulty in steeping flax in Britain and Ireland, has arisen from the want of suitable steeping accommodation; and consequently, much flax has been injured both in color and quantity—a difficulty which the Belgians obviate by sending their flax to places adapted to this particular branch of the business; distance to them being immaterial compared to the advantages derived.

The water of the river Lys, to the extent of many miles along its banks, is the most celebrated depository for flax. Steeping is, to hundreds of men, a regular trade. Two, or more, unite in the possession of a number of crates, adapted to a given expanse of water, for which they pay no rent, and are protected by government from the interference

of shipping. The crates are about twelve feet long, eight wide, and three deep. They are simply constructed, and made of common poles. One of my men, Savine Fieuss, was a joint owner of thirty-five. He says that farmers send their flax as far as forty miles by land to be steeped; some, by water, from Holland, even much longer distances. The sheaves, tied with double, and often with triple bands, are placed erect in the crates. The root-ends of one-half of a sheaf are tied to the boll-ends of the other, in order to make the bundle even and convenient for stowage in the crate, which, when filled, is floated into deep water, and sunk with stones to about six inches below the surface. After a short time some of the stones are removed to prevent the crate from touching the bottom of the river.



BUNDLES OF FLAX DRAINING.—FIG. 10.

When ready to be removed, the bundles are placed upon the bank, a few hours, to drain. Afterwards they are untied, and formed into what are called caps, not unlike soldiers' tents. The rapidity with which this operation is performed is perfectly astonishing; for in a few minutes a whole field will assume the appearance of a Lilliputian camp. By this means the stalks are quickly dried, collected into bundles, and sent home. Where the process of bleaching or grassing is conducted by the owner at his leisure—that is to say, if not convenient to prepare the flax for market immediately,—it is carefully stacked till the following spring, a delay that considerably enhances its value, particularly with respect to color. On these accounts the system of sleeping flax one year and of grassing it the next, is now extensively adopted in those parts. I had some flax steeped in water, approved by the Belgians, several miles from my own house, according to the above plan; and found in this, as in every other department, the superiority of their practice.—*Condensed from Warnes' Treatise.*

TEST FOR COPPER IN FOOD OR CONFECTIONERY.—Pour over the substance to be tested a small quantity of liquid ammonia (hartshorn water), and if copper be present it will speedily acquire a bluish tint.

TO REVIVE OLD WRITING.—Boil nut-galls in wine, and with a sponge wash over the writing to be restored and copy immediately, as the paper will soon decay.

Mr. Norton's Letters.—No. 2.

SINCE my last letter to you, I have hastily passed over a large portion of England and Scotland, besides portions of Belgium and Holland. One of the most interesting day's travel I have had, was from London to Dover, a distance of 87 miles, through one of the most beautiful parts of England; each turn, and each embankment of the railway, opens some delightful landscape. I was accompanied by Professor Johnston, and derived much instruction from his knowledge of the general features and geological formations of the country.

For nearly 20 miles after leaving London, we were upon the London and plastic clays. The London is an exceedingly stiff, dark-colored clay, forming beds of from 200 to 500 feet in thickness, over a large part of several counties. It forms an extremely difficult soil to cultivate, and hence a very considerable portion of it is left in permanent pasture; in some places very fine, in others cold and wet. Thorough draining and judicious management cause it to produce remarkably fine crops of wheat and beans; and where sand can be procured, it is converted into a fertile loam of excellent quality.

The plastic clay is under the London clay, and comes up all around it, having a thickness of from 300 to 400 feet. It consists of alternating beds of clay and sand. This structure of the formation causes it to present soils of entirely diverse qualities, as the different beds of clay and sand come to the surface, and this often within a very short distance. Neither of these clays can, as a whole, be described as well cultivated. The fields are in a majority of cases wet or ill-drained, and the grass, therefore, not so fine as it ought to be. Where the soil is well cultivated, and thoroughly dried, the crops are remarkably fine. Draining is progressing quite fast. We saw many fields undergoing the process in a thorough and complete manner. The small pipe tile, having a bore from one to one and a half inches in diameter, for the ordinary drains, seems entirely to have superseded all other kinds. Of course the diameter of the bore is greater for the leading drains.

These stiff clayey soils are difficult to manage, but are of great strength, and when judiciously treated, are productive, being deep and almost inexhaustible. They belong to what are called by geologists, the tertiary strata, characterized according to Professor Johnston, by containing among other fossils, the remains of animals identical with existing species.

Just before reaching Reigate, we crossed a narrow belt of the chalk formation, belonging to the secondary strata, which contain no animal remains that can be identified with existing species. The chalk covers a very large area in the south-eastern part of the island of Great Britain, being in thickness about 600 feet. Some parts of it contain layers of flint, especially the upper beds; and in many places, beds of marl (chalk-marl) occur. The different layers of chalk produce somewhat different soils, but the general nature of them is the same. The upper chalk, however, is generally the poorest, and in many places, the chalk for the lower beds is applied on the upper with very great

advantage. It is a singular thing to see chalk brought sometimes many miles and laid down in heaps upon the land, where other chalk is perhaps not more than six or eight inches from the surface. It is, in fact, probable that in many cases, chalk is brought from a distance, not at all superior to that which a furrow a few inches deeper than usual, would turn up. The farmers of this kind of land, frequently, and perhaps generally, have a great horror of turning up any chalk. I have seen instances where there was not more than six inches of soil above the chalk, and the plowmen were carefully avoiding the making of a furrow more than four inches deep. Some analyses of such soils, made in Professor Johnston's laboratory in Edinburgh, have shown that by this system of skimming the surface year after year, the surface soil may actually become deficient in lime, which at the same time exists in the condition of chalk, not three inches below the plow. It is strange that men can thus go on from year to year, and generation to generation, doing as their fathers have done, and not bestowing a thought upon improvement. Among other old customs which we noticed in this neighborhood, was that of plowing with horses fastened one in front of the other. Plowing as shallow as many of them do, there would seem to be nothing required beyond the strength of *one* of their great horses; but the employment of *four* is not uncommon. I saw one plow drawn by four horses, with one man to hold the plow, and a man and a boy to drive. All of this mighty array produced a rather narrow furrow, about six inches in depth.

I must observe, however, that in all cases it would not be advisable to bring up the chalk from the subsoil, as many of the upper beds are only productive of a short and scanty herbage. No rigorous chemical examination has yet been made, to show us why it is that one kind of chalk is so much better than another. This would be an interesting and useful inquiry.

At Reigate, we came upon the green sand, a formation about 500 feet in thickness, which appears at the edge of the chalk, forming a belt around it. The upper beds of this green sand, according to Professor Johnston, are everywhere productive, and form some of the finest soils in the kingdom. They are deep, friable, and easily cultivated. Some of the middle and lower beds of the same formation produce cold, unmanageable soils, perfectly discouraging to the farmer. Where we passed, no such soils as these last were visible, everything appeared rich and flourishing. The crops looked well, without exception, and many were even luxuriant. I do not mean to say that the farming of this beautiful district is perfect, for many a wet, rushy field testifies to the contrary; yet taken as a whole, all appears almost without defect; a closer inspection only, reveals the faults.

An account of the remainder of this journey I must defer until another opportunity.

JOHN P. NORTON.

Utrecht, Holland, November 18th, 1846.

TO SOFTEN AND REMOVE PUTTY.—Take a little nitric or muriatic acid, or a little strong vinegar, and spread over the putty, and it will soon become soft.

POPULAR ERRORS.—No. 3.

WHILE the public press is loud in denouncing the political and religious errors that corrupt the bosom of society, it is too apt to overlook lesser ones, which have consequently remained in full force, and acted as formidable barriers to the advancement of truth. These have been handed down from father to son, from time immemorial, until their very antiquity has invested them with a garb of sanctity. How strange that the extinction of "Salem Witchcraft" did not involve with it that of other fantasies equally ridiculous and absurd, though, perhaps, less pernicious! With what supreme contempt we regard the follies of former times, and how severely do we reprimand the superstitions of our forefathers, while we obstinately cherish and cling to others which may as justly expose *us* to ridicule and contempt!

"We think our fathers fools, so wise we grow,
Our wiser sons no doubt will think us so."

The moon has ever been a most prolific subject for the origin of absurd theories; for example, witness the following. When the appearance of her crescent is such that a kettle might be suspended on it without sliding off, dry weather will ensue; root crops must be planted when she is passing from her juvenile state to that of maidenhood or maturity; but with other crops the opposite rule must be observed. Her passage from one sign of the zodiac to another, influences both animal and vegetable life. Cucumbers planted when the sign is in the *twins* (Gemini), will grow in *pairs*, and if a calf be taken from its doting parent when the sign is in the heart, the bereaved mother will mourn long and loud for her offspring.

Such are a few of the ludicrous absurdities connected with the moon, and these are suffered to exist, and are in fact sanctioned by those who ought to be foremost in putting them down. How many almanacs do we see issued in this enlightened age, having for a frontispiece a grotesque picture of the human body, surrounded by characters representing the constellations of the zodiac, all of which are entirely imaginary, and were formed in accordance with the superstitious notions of ancient pagan nations. Thus we, who profess to be enlightened Christians, show a reverential deference to heathen doctrines, by acknowledging the agency of the deities which they enthroned among the stars. It is to be hoped that the light of education and reason will ere long dispel these clouds of ignorance, and that a brighter day will dawn upon us.

Greenport, Dec. 26th, 1846.

J. McK.

MEETING OF AMERICAN WOOL-GROWERS.—A meeting of wool-growers will be held at Steubenville, Ohio, on Wednesday, the 10th instant, at which it is hoped every wool-growing county in the Union will be fairly represented. As many persons, intelligent, and well informed in this important branch of business are expected to be present, and as much information will be given, and extensive arrangements be made for the better management of growth and trade, wool-growers of every description, who can conveniently attend, will find it for their interest to be present.

THE HORSE.—No. 2.

THE ANATOMY OF THE BONES.

a, b, c, d, e, f, the head.

a, the under jaw.

b, the upper jaw; near the letter is a hole for the passage of the nerves and blood vessels from the brain to supply the lower part of the face.

c, the orbit, or socket of the eye.

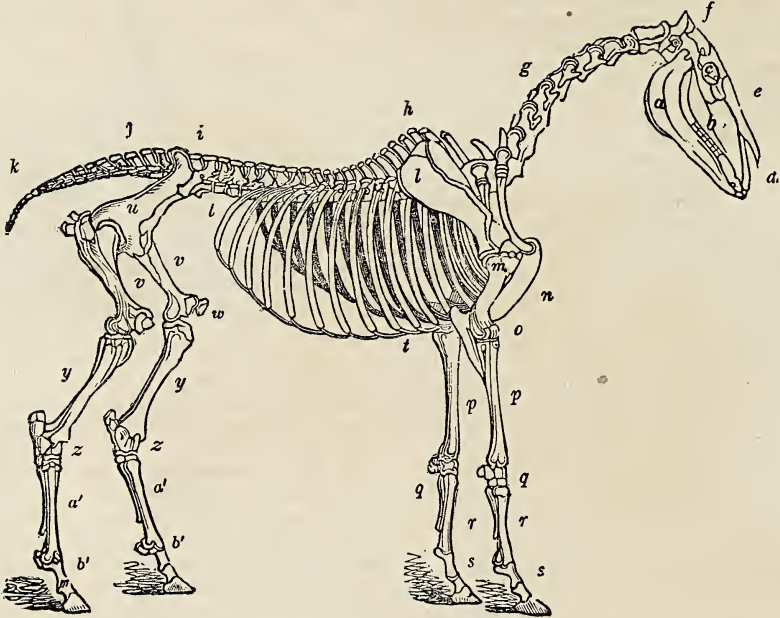
d, the low part of the upper jaw, containing the upper nipper teeth. On the opposite side is the lower part of the under jaw, containing the under nipper teeth. The lower part of the upper jaw in quadrupeds is a separate bone, that is, the upper jaw consists of two parts, the upper and lower, with the nipper teeth in the lower, and the grinder teeth in the upper.

e, the bones of the nose.

f, the top of the head, or bone dividing the wall

bones of the head from the bones of the back of the head. There are, besides, in the head, a number of bones, not seen in the cut, or seen only in part. They are the frontal bones; the bones of the walls of the skull; the bones of the temples; the bones of the arch above the eye; the bones of the pit above the eye; the bone of the back part of the head; the bones for the passage of tears from the eye to the nose; the cheek bones; the bones of the nose; the bones of the palate; the bone dividing the two portions of the brain; the base of the bone of the back part of the head; the wedge bone; the sieve bone; the spongy bones of the cavity of the nose; the bone of the tongue; and in a five year old horse, forty teeth, twelve nippers above and below, four tushes above and below, and twenty-four grinders above and below; the mare generally lacks the tushes.

This complication of the bones of the head (in-



THE SKELETON.—Fig. 11.

finately greater than in any other part) has a varied object; the jaws are levers, the front teeth knives to cut, and the grinder or back teeth mill-stones to grind to pulp, and thus prepare the food for the stomach. The bones of the upper part of the head are necessary to shield and protect the brain and organs of sensation there, especially hearing and seeing; hence the brain is covered by an arch (which is the strongest form of protection), and the eye by arched and projecting sockets for the same reason. The head is liable to blows, and concussion of the brain would be fatal; therefore the large number of bones, many of them joined by dovetailing processes that yield on pressure, closing and opening, and render the skull very difficult to be fractured. The arch or roof of the brain consists of two plates, the outer one hard and dovetailed, which resists all pressure and blows; and the inner one elastic, to yield and prevent pressure on the brain.

Thus the vibration of blows and all shocks are prevented, unless from a force so great as to overcome all these means of resistance; but this rarely occurs.

g, h, i, j, k, the spine or back bone.

g, the bones of the neck, seven in number.

h, the withers; *h* to *i*, the bones of the withers and the bones of the back, eighteen in number. The wither bones rise from the spine; the first but little, the second more and runs back, the third and fourth more, and the fifth most; then decline to the level of the back at the twelfth.

i, the bones of the loins, six in number.

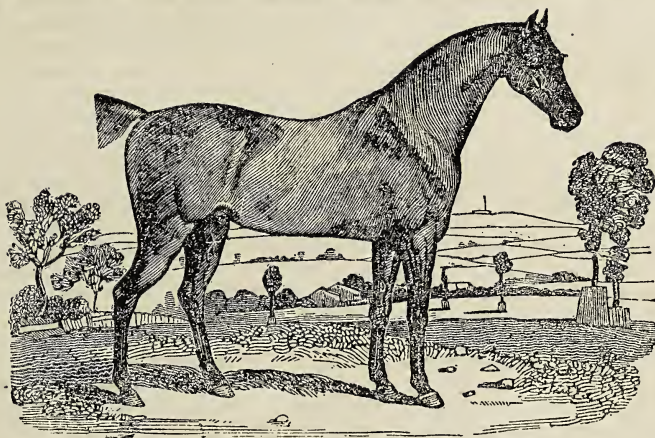
j, bones of the spine, which are included in the haunch, five in number.

k, the bones of the tail; varying in number, but generally about fifteen.

The back bone or spine of the horse is composed of a wonderfully contrived series of bones. They are not united directly the one to the other; had

they been, this would have subjected the back to dangerous shocks. These bones are united with each other by cartilage or gristle, and are bound all together in a column by strong ligaments. Any two of these bones united by cartilage constitute a joint, with a small power of motion only. Yet while any one joint possesses but a small power of motion, the back has in its whole length a great one, and hence possesses great strength and flexibility. The ribs form joints with the bones of the back, and are received into the cartilage between the different bones of the back. So strong is this cartilaginous union of the bones of the back with each other, and of the ribs with the spine, that in case of injury, the bones and ribs will be broken sooner than the cartilage will give way. The spine, in the part called the back, is composed of twenty-three bones, viz. eighteen composing the back proper, and five the loins. On this part of the animal the weight is placed, and ease of carriage and strength are necessary. If the back were stiff and unyielding the motion of the animal would be intolerable from the greatness of the jar; if it were

very flexible it would be weak. It is hence greatly flexible as a whole, yet but little-so in any small section of it. Strength and ease being both necessary, are accomplished in this way; viz. the bones are united together with peculiar firmness; the round head of one is exactly fitted to the socket of the one immediately before it in the column of the back; and between them is placed the elastic ligamentous cartilage or gristle. There are ligaments running along the broad surface of these back bones on the under side. There are horizontal projections, or spurs, on these bones; along these run ligaments; there are upright spurs to the bones, and along these run ligaments; and in addition, the pack-wax of the neck extends along the whole course of the back and loins. These ligaments are inserted into the various muscles at their end and along their course, and contract and expand as the motions of the animal render necessary. This whole combination makes a back of great strength and flexibility, capable of sustaining a great weight, without those shocks or jars to the rider which would be fatal to the horse himself if the back were un-



THE ROADSTER.—FIG. 12.

yielding. Yet even these ligaments, with all their power, may be ruined, by over weight, too violent exercise, or too sudden pulling up on the haunches to arrest motion. In such case, they inflame and are changed to bone, and the joints cease to exist, and the back is one solid column of bone. Most of badly used old horses have stiff backs, more or less from this cause; they are unpleasant to ride, lie down and turn with difficulty, and straddle in moving.

l, the shoulder blade.

m, the upper bone of the arm, or lower part of the shoulder.

n, the fore part of the chest; or the breast and breast bone, consisting of seven to nine bones.

o, the elbow; the rear of the elbow is called the point of the elbow, or point of the arm.

p p, the under bone of each arm.

q q, the knees of each fore leg, consisting of seven bones; six of them are interposed between the lower end or head of the under bone of the arm and the upper ends or the heads of the bones of the leg below the knee; the seventh is placed

behind the other six, and bears no weight, but is a point of attachment for two muscles, concerned in the backward bending or contraction of the whole leg. These seven bones, and the heads of the arm and shank bone, are all covered with a thick elastic cartilage, or gristle, to facilitate action and prevent too much jar. The whole joint, consisting of all the bones, is bound together firmly by ligaments.

r r, the larger cannon or shank bone in front, and the smaller or splint bone behind, of each fore leg.

s s, the fore pastern and foot; consisting of the upper pastern bone, with some bones behind (similar to the bones of the knees), making the joint of the upper pastern with the shank bone; the lower pastern bone; the coffin bone; the shuttle bone (not seen), joining with the lower pastern and coffin bone.

t t, the ribs; seven or eight joining on to the breast bone, and called the true ribs; and ten or eleven united together by cartilage or gristle, called the false ribs.

u, the haunch; consisting of three parts, called by surgeons the ilium, the ischium, or hip bone,

and the pubis; in common language we have no names for these parts; the points of the ilium are prominent, and are called the hips.

v v, the thigh bones of each leg; called also round bones.

w, the stifle joint, with the stifle bone, which is similar to the knee pan in man. On to the stifle bone are attached some of the tendons of very powerful muscles. The stifle joint is the union of the thigh bone with the leg, or lower thigh bone; and the union is made very strong by ligaments.

y y, leg bones; called lower or second thigh bones; behind is a small bone called the splinter-bone.

z z, the hock, composed of six bones; the prominent bone is called the point of the hock. These bones are like those of the knee, and are in a similar way bound together.

a' a', cannon or shank bones of the hind legs.

b' b', pasterns and feet of hind legs, same as in the front leg.

MASTODON COTTON.—No. 1.

THE introduction of this variety of cotton into the United States forms a new era in their history, and has excited great attention in all the cotton-growing districts. The chief topics of inquiry or examination to which I propose to direct your readers, are as follows:—

Where did the seed come from?—This is not known with certainty, and perhaps never will be. In 1842 a gentleman who is not known to the writer, and who had recently been in Mexico and California, left *three seeds* in rather a careless manner in this place, with one of my neighbors. The circumstance became known to me, and I carefully preserved a portion of their product. From this beginning has grown the “MASTODON COTTON” in the United States. Not all that is *called* by that name, but all that is *genuine*. I might here remark that for many years I had been endeavoring to obtain a *better seed* than is usually cultivated. I had taken much pains to procure and *try* all new seed I could hear of. I had also spent much time and some expense in crossing, mixing, and proving different kinds of seed; and I had then several different kinds of cotton seed which I had petted a good deal, but have thrown them all away. The name “*Mastodon*” was given it by the writer in consequence of the size of the bolls and stalk.

What are the peculiar properties of the plant and cotton?—The plant when young is stouter and more thrifty in its early growth, the leaf is thicker and the stalk larger. As the plant grows, the stalk becomes very large and the branches very long, with short joints. The foliage is of a somewhat darker green than the common Mexican cotton, and the boll nearly thrice the size, with thicker rind. The cotton, when open, adheres in the boll with sufficient strength to entirely prevent its falling out in the field.

The character and value of the cotton when prepared for market is of much importance. The first that was exhibited in the market in New Orleans sold in December, 1845, at 16 cents per pound, and afterwards, as I understood, in Liverpool at 9d. My private commercial information from Liverpool,

on the subject, places it, when well ginned on saw gins, in the usual way, above all other cottons except the higher grades of Sea Island. No attempt has been made that is known to the writer, to gin it in any better mode than on common saw gins somewhat modified. It is confidently believed, however, that if it could be ginned without materially injuring the staple, it would rank with the best Sea Island cotton. Its staple is from *three quarters of an inch to two inches and a half* in length. Cotton brokers and merchants speak of it as being remarkably *fine and silky*.

I ought to have remarked above, that the product of the Mastodon, especially on dry, thin, or sandy soil, is supposed to be greater than that of the common Mexican cotton.

How, and on what kind of land is it cultivated?

It has been cultivated the present year on all kinds of cotton land in the whole South. The season having been so extremely disastrous, on account of the wet weather and the famous cotton worm, that it has been extremely difficult to make any calculation or estimate upon it; yet it is believed, from experience formerly as well as the present year, that thin, dry land suits it best, comparatively.

In cultivating the Mastodon cotton care should be taken, on rich land, to make and keep the ridge high, otherwise it may continue to grow too long in the season. There should be a less quantity of plants on a given quantity of land, by about one-fifth; and on rich land, or in wet seasons, it should be *topped* about the last of July. By topping I mean to break out the bud of the main stalk in the centre.

How is it ginned?—As has already been intimated, it has never been ginned without material injury, so far as I know. The saw gins only have been used, and these greatly injure the staple. The cotton adheres so closely to the seed that it is thought to be impracticable, or at least extremely difficult, to gin it on the rollers used in ginning the Sea Island cotton, though it is understood that efforts are now making to effect this purpose. If that or some similar process could be adopted, for separating the cotton from the seed, it is believed it would enhance its value fifty or a hundred per cent. If the saw gins are used, however, they should be of the very best kind. The grates should be an inch wide, the teeth very fine, the cylinder should have a very slow motion, and the brush great rapidity. R. ABBEY.

Yazoo, Miss., Dec. 3d, 1846.

APPLICATION AND GOOD EFFECTS OF GUANO.—

Rev. Ansel Downs, of Baiting Hollow, Long Island, speaks in high terms of his success in the application of guano in the culture of Indian corn. In every case where he applied it in the hill or otherwise, the result was a double quantity of produce. He thinks that when the guano is used in an unadulterated state at the time of planting, it should not be applied directly under the seed, but at a distance of two or three inches one side; for when the roots of the corn come in contact with the guano, the plant seems to droop, turn yellow, and in some instances die. This mode appears to be in perfect accordance with that practised by the Peruvians.

MANAGEMENT OF HONEY-BEES.—No. 7.

Winter Management.—When fall approaches, it is important to know the exact condition of the bees, in regard to their winter's food; and for this purpose, I recommend that all hives be made of the same size and weight, that the quantity of honey in each may be readily ascertained, after a little practice, in raising them from their positions. There should be found 15 to 20 pounds of honey in every hive, of the usual quantity of bees, in order to carry them safely through the winter. About the first of October, I raise all of my hives, and I can at once perceive whether any are deficient in honey. If the season has been very unfavorable for gathering honey, and I find them rather below the standard weight, generally I adopt the following mode of feeding, being far less trouble than to wait till their stores are consumed, at which time the weather will not generally permit their being fed with any degree of facility. I take a box, or trough, about two feet long, six inches wide, and four inches deep, into which I place my honey; I then set a floating cover upon it, made of thin, light wood. This cover is saved lengthwise as many times as a saw can be made to pass through easily. One end of this cover is kept entire, and upon the other end a bracket is placed to keep the strips in their proper position. The honey passes up through the channels, and the bees take it from the bars with great facility, being in a position perfectly free from sticking in the contents, and they are enabled to take away the whole contents of the trough, without any attention after filling it. Care should be taken to supply the honey before cold weather sets in, and at such times as the bees are out in great numbers. The honey afforded in this way is stored up in the same manner as that gathered from flowers. I have had a gallon and a half taken away in a single day by three stocks only. I buy southern honey, at from 50 to 60 cents per gallon, a gallon weighing 12 pounds; hence, a stock of bees may at any time be saved from famine, for one-tenth of its value. Where honey cannot be readily obtained, common brown sugar will do just as well. Dissolve it with sufficient water to make it of the consistency of honey. This must be done over a fire, and taken off at the boiling point, and the scum taken off.

When a single stock, or more, or a late swarm that has not been able to lay up a winter's store, is to be fed, it must be done in a way that will not attract other bees. And I will here add, that in all cases where a majority of the hives are of light weight, it is much better to feed the *whole* colony than to attempt to save any part of their food, by feeding separately such only as absolutely require it. The difference will be returned in the supers the next season. To attempt to feed bees in cold weather, in the usual manner, at the bottom of the hives, is a great vexation; and the art of feeding them in a proper manner is so little understood, that many people leave their bees to their fate, rather than attempt to rescue them. I will give an instance of feeding a late swarm, which will serve for all cases of separate feeding from the general colony; but in order to feed on this principle, the hives must be made with supers, on my plan, or any way in which a superstructure is made for the bees to enter.

About four years ago I had a late swarm that had laid up no honey at all, and constructed combs in one corner of the hive only. I took out the door of the super, turned the hive round to the south, and then placed a temporary door to the super, with a pane of glass in it. After the boxes belonging to it were removed, I placed a very small tin pan in their place, filled with honey, and covered with a floating cover after the manner of feeding as before mentioned, with the difference that this cover was filled full of small holes, from which the bees took the honey. These bees were active the whole winter when the sun shone, but barely attempted to leave the hive, their whole operations being confined to the super. The air was admitted freely at the bottom, and the weather was very severe, the thermometer being down to zero frequently. This hive was placed in a cold situation, and there being so few bees in the hive shows conclusively that bees will stand any weather, however cold, if in a right condition. There are instances in which bees are found dead, with an abundance of honey in the hives; but they do not *freeze* to death, but *starve* to death; for this reason, that the bees are unable to change their position, in order to get food in a different section of the hive, owing to the dormant state in which the weather places them, and they die of famine. Had a sufficient supply of honey been within their reach, they would have withstood any degree of cold. Strong stocks are not subject to such a death.

In cases where fall feeding has been omitted, it may be safely done, in a general manner, in the winter season, provided that the weather be very mild, and the bees come forth in large numbers. If the weather will not permit of feeding, and if there be no supers to the hives, they must be left till the first warm spring weather, and if they survive up to this period they will probably do well.

Another important consideration is, to so place the bees that they will have the least possible desire to leave their hives during the winter. If two stocks of bees should be placed side by side, and the one so managed that the bees should remain within, constantly, without being confined, while those of the other should be on the wing during every tolerably warm day, the mortality of the bees remaining within would not be half so great as that of the other; for the reason, that thousands of bees come to an untimely death, in the winter season, by being suddenly chilled while abroad, and never regain the hive. Hives thus depopulated cannot possibly thrive so well in the following spring, as those which are kept from going abroad; hence it follows, that to be successful we must pursue that course which will cause the bees to remain within the hives, if we can without imprisonment, as that often proves more fatal than to suffer them to go abroad.

T. B. MINER.

Ravenswood, January, 1847.

WEATHER PREDICTIONS.—At present I feel entitled to deduce from the sum of my investigations this capital consequence:—Never, whatever may be the progress of the sciences, will the *savant*, who is conscientious and careful of his reputation, speculate on a prediction of the weather.—*Arago*.

LETTERS FROM THE SOUTH.—No. 3.

THE surface of the country from Virginia to Georgia, inclusive of a portion of each of these states, may be generally classed under three well-defined divisions. The first, lying on the seaboard, is low, level, and sandy; the middle is much higher, with a rolling surface, and some hills; while in the third or western, these hills become more elevated and abrupt, and finally pass into the mountainous ridges, which form the continuation of the Alleghany and Blue Ridge. The first consists almost entirely of sand; the second of sand or gravel, frequently of loam, and occasionally of clay. Stone sometimes, though rarely, abounds. Except in some of the islands on the coasts bordering on South Carolina, Georgia, and the river bottoms, both of which are rich alluvial deposits, and as inexhaustible as lands can be under cultivation; the soil in these divisions is generally light, and requires frequent manuring, or prolonged rest, to yield good crops. Vast quantities of it have never been brought into cultivation, and from its extreme sterility, will probably remain untouched till the tide of emigration, which is now rushing with so much strength through the territories of Oregon and California to the shores of the Pacific, shall have met this impassable barrier, when it will be turned back upon itself, and again set towards the Atlantic. They are all covered with a medium growth of natural forests, and furnish lumber and fuel for the inhabitants; and frequently, in addition to these, large quantities of tar, pitch, and turpentine for exportation.

Most of the islands north of Charleston are barren sand-banks, covered in many instances with a light growth of stunted pines or shrub oaks. The rich islands, near and south of this city, are generally healthy. They are densely covered with an agricultural population, whose principal staples are sea-island cotton, and farther south, some sugar; while corn, sweet potatoes, melons, and the various minor products of the south are cultivated in all. The impoverishment necessarily consequent in cultivation, is readily arrested by applying the muck found on the inner shores at low water, which is highly charged with the remains of shell-fish and infusoria. These are rich in carbonate of lime, and frequently afford an appreciable amount of the phosphates, so valuable in manures. These lands, from their fertility, accessibility, and general healthfulness, are held at high prices, and can seldom be bought under \$100 per acre. The choicest kinds of sea-island cotton there raised, will sometimes command a dollar per pound, for foreign consumption; and they are engaged for years in advance of production.

The river bottoms are frequently unhealthy, though much less so to the blacks than to the whites. The former, under the direction of overseers, are generally the sole occupants of them during the summer and fall. On such as can be flooded, rice is raised in large quantities, and where every way adapted to its culture. This is by far the most profitable crop raised in the United States. The more elevated bottoms are devoted to corn, and sometimes to cotton. These are raised to some extent on the sandy levels, more especially corn,

which yields a light crop of 10 to 25 bushels per acre; but it requires manures or frequent rest to produce even this small quantity. Sweet potatoes and melons are also grown upon them in abundance when well manured. The middle division, embracing the rolling land, is peculiarly the cotton region of these states. Corn is also raised, and generally to the full supply of the plantations. On some there is an excess for exportation, and occasionally it is brought from a distance for consumption. The western division is made up of much poor, and some rich lands, and is productive in all the grains, grasses, flax, roots, &c., and is eminently adapted to wool-raising, as is also much of the middle section.

Augusta is a place of about 8,000 inhabitants, is regularly laid out, and generally well built, on a table land, some 25 to 30 feet above the low water mark of the Savannah which borders upon it. Notwithstanding its elevation, the river sometimes overflows the streets; and for miles it floods the rich alluvial banks, imparting to them that natural fertility which characterizes the elevated plateaus on either side. The town was formerly quite flourishing, and enjoyed an extensive inland trade; but for some years it has been stationary, if not retrograding. The alleged cause of this is the railroad, for at the same time that it runs inland for 150 miles, it runs away from it to the Atlantic, 136. Yet, at Charleston, its tide-water termination, it is denied that they have a corresponding benefit, although in this, I think they are mistaken, as there is some evidence of improvement, and the place is certainly extending its buildings, and adding to its trade and population. Including the suburbs, it now contains nearly 40,000 inhabitants, a majority of whom are blacks.

Savannah is the terminus of another railroad running through the interior of the state, and draws off a part of the trade heretofore enjoyed by Augusta; but it has hitherto derived little increase from it, either in business or population; and the interior of the country along these routes, has certainly not manifested any peculiar developments in consequence of their construction. Most of the Southern railroad stocks have always been much below par, and paid little if anything in the shape of dividends. The utilitarian will naturally inquire what benefit has followed the outlay of so much capital? Much in various ways, though little in the manner that was anticipated by the stockholders. They have greatly facilitated intercourse between remote points, and at much cheaper rates, and passengers and products can now readily pass over great distances, not only with less outlay of money, but also with great economy of time, and entirely independent of bad roads and weather; and when markets are high on the seaboard, the planters can rush in their entire produce and obtain the highest rates.

It is truly enough said, that railroads principally benefit the extremities; but here is Augusta, at the head of steamboat navigation, which it has positively injured, and their influence is scarcely perceptible in favor of Charleston and Savannah, where transshipments are made upon tide-water. The planter and the agriculturist of the interior, it has certainly benefited; then why are their good

effects imperceptible at the other extremity? It must be candidly answered, that it is no fault of the road, but of the citizens. The *principle* is still as good as ever, but the *practice* destroys most of its beneficial effects. Augusta fails to arrest the legitimate benefits of the road, and allows them to accumulate in Charleston; while Savannah, and the latter place, from the same neglect, allow Baltimore, Philadelphia, New York, and Boston, to become the real termini of the roads, by rendering themselves the head-quarters of supply and demand. The corrective of this evidently rests in measurably changing the habits and employment of the people. There are comparatively few producers there as mechanics and manufacturers; and the raw materials pass on and on, till arrested by consumers, who return a full equivalent in the various manufactured articles, which are the result of this consumption. It is only when the circling eddies meet that the fertile deposits are formed, while the rushing turbid stream leaves no traces of its enriching qualities. Mechanics and manufacturers are indispensable to give growth, stability, and wealth to any place or country, and this, be it known, is of vastly more consequence to the agriculturist, the tiller of the soil, than to the artisan. The latter may move his capital, his labor, and his work-shop, wherever they can most advantageously be employed; while the former must cultivate his acres where they lie, or abandon them. If there is a dense and flourishing population near him, otherwise profitably employed, to consume his products, the latter will return him large and satisfactory prices, if surrounded only with competitors, or idle non-producers, who have not the wherewithal to purchase his harvests, they can yield him only a lean compensation. Neither Augusta nor Savannah ever had many surplus mechanics, and comparatively no manufacturers; and from Charleston some 300 or 400 have within a few years emigrated to the north and west, where they can follow their legitimate pursuits, under those advantages which are elsewhere afforded. It is not necessary to specify what these are—every intelligent man can perceive them at a glance.

What has built up the four principal cities before enumerated, Pittsburg, Cincinnati, Louisville, and others, and with so much benefit to the farmers scattered far and near? Commerce has done much, it is true, for their growth and support; but commerce has indicated where mechanics and manufacturers should concentrate their operations, and aided them by her presence, rather than accumulated this large population and wealth by her unassisted efforts. Egypt had commerce, wealth, and population, but she had agriculture and manufactures too, and in the highest state of perfection. Tyre and Sidon, once eminent for wealth, employed no small part of their densely crowded populace in the fabrication of linen, silk, wool, and the metals. Their descendants, the Carthaginians, though they enjoyed almost a monopoly of commerce and piracy (for the two were nearly synonymous terms among the ancients), brought crude tin, and copper, from the mines of England, and the latter metal and other raw materials, from various countries, to employ her artisans, and sustain the

various arts they derived from their ancestors. Rome, her proud rival and conqueror, while plundering the globe of its accumulated wealth, plundered it of its mechanic arts, too, or she must have relapsed into impotency or barbarism in half a century after her successful robbery.

New Orleans and St. Louis are the only exceptions on this continent, to the union of trade and commerce with the mechanic arts, where growth and wealth have been rapidly accumulated; and they are a thousand miles apart, and without rivals in the trade of an agricultural region, to which, both for extent and fertility, the world has no parallel. It has been often said, that the "Old Thirteen" is but the list, the mere selvsage, to the broad rich fabric that lies west of the mountains; yet scanty and penurious as is the soil, what an augmentation of wealth, population, and resources, has the union of the mechanic arts with their well suited agricultural labors, given to the middle and northern portion of them; and what has been realized there, the adoption of the same policy will measurably achieve for the south-west. These remarks are intended exclusively for the advancement of agricultural interests, and as indicating the true policy for the farmer to adopt to secure the highest reward for his labor.

The road from Augusta westwardly was in the rolling country, and for the first hundred miles did not come under observation, as we passed it in the night, but I was told it did not vary materially from our subsequent route. Daylight found us passing through interminable woods, principally oak, with some chestnuts, hickory, and now and then patches of pine. At Notasulga, a new place of a dozen houses, and three or four stores, 136 miles from Augusta, we left the cars for stages, which took us 130 miles to Atlanta, a place of equal size and importance, where we again took the cars for Montgomery, 50 miles. This is the principal head of steamboat navigation on the Alabama, and recently made the capital of the state. The town is regularly laid out, on the left bank of the river, and elevated some sixty feet above it; and enjoys a large trade with the surrounding planters, who make this the *dépôt* for shipping their cotton. It contains some 3,000 inhabitants. Wetumpka, 50 miles higher up, by the river, but only 16 or 18 by land, contains about 2,000 people, and is the extreme head of navigation for boats of the lightest draught.

The whole country through which we passed from Augusta to this place, is as dull and deficient in interest as the most misanthropic could desire. It was sufficiently rolling, sometimes stony, and had numerous clear rivulets meandering on it. But the *improvements* were mostly a sad blotch on nature. It is bad enough to find log shanties, slip-shod fences, etceteras, in a decidedly fresh, and untamed country; but to see these, so old as to be already in their dotage, and comparatively little to redeem the general forbiddingsness of the scene, is, to say the best, the reverse of gratification to a traveller. The log houses on their best estates, consist of a room at either end, with a passage between (but seldom enclosed with doors), through which a loaded team could be driven, and the enclosed rooms would

generally afford a tolerably distinct view of the opposite scenery through the *unchunked* double walls. The chimneys in most of the country, and some of the city houses, from Maryland to the Gulf, are placed on the outside of one or both ends, and are built entirely independent of the houses, though connected with the first floor by a single fire-place. This may abate a little of the intense heat of summer; but it has a most unsightly and forbidding appearance. The best houses are sometimes painted, and the chimneys are well laid up in brick and mortar, while those attached to the poorest are more frequently made of mud and sticks, and the surrounding buildings are limited to a rough hovel or two, about as closely housed in, as a field under a well laid worm fence. The *shuck* provided for the winter forage of the cattle, is one or more stacks of corn blades or husks, some 12 or 15 feet high, and 5 or 6 in diameter. A fourth rate Vermont farmer's cattle would consume the winter's stock in a single frosty night, and need baiting early the next morning. The working mules or horses are fed with corn; but all the remainder of the quadrupeds must betake themselves to the woods for brouse, or starve. The latter alternative they are sometimes not slow in accepting as the best of the two. Yet as the range is illimitable, and vegetation has a torpid existence through the winter, they will frequently do very well on it, though they have in many cases to go so far for it, that they do not think it worth while returning to report progress till the feed has again become deserving their attention home. Of course, milking the cows is out of the question, unless half of one's time is used in pursuit of them. Where there are *cane brakes*, as is frequently the case on rich bottom lands, the animals have a good winter subsistence on the young shoots of this gigantic grass. Its rich evergreen leaves acquire a palatable nutritiveness after the frosts, which it does not possess during the summer and autumn, and when abundant, cattle will fatten on this alone. The swine through this country are the vilest brutes a farmer's eye ever rested on. They are of all colors, but principally black, grey, red, blue or striped and dotted like a hyena, which comely beast, and its congener, the wolf, they more nearly resemble than any of their own well bred family. Even the fattening porkers are only in a passably growing condition, while the nomads could hardly lay claim to hide enough to hold their bones together. As the stages rattled along, they rushed out of the woods in all directions, to gather up the droppings of the horses, which they followed for miles, if their strength held out, till they could refresh themselves with the savory repast. I asked the driver the cause of their leanness when the woods were full of oaks and chestnuts. He said the former bore no acorns, and the people gathered the latter to avoid starvation. I pointed to one pot-bellied specimen of humanity, as an evidence of some addition to this primitive food, but he stoutly claimed that the protuberance was the sole product of the forest! Whether he was quizzing or not I don't know. The meals one gets here at four *bits* each (50 cents), are strictly in keeping with the character of the enterprising hosts. They seem to provide on the same principle with

the old dame, who thus explained her success in cheap boarding. "She found out what folks *didn't like*, and gave them enough of it." It was stoutly asserted by some of the more knowing passengers, that the proprietors of this route, not content with 10 cents a mile for the fare, run their stages to such houses as will give them the largest division of spoils; and as there are 60 or 80 meals per day, disposed of at each house, at half as many dollars, seven-eighths of which must be clear profit, this alone will afford no inconsiderable income to the enterprising participants of this scheme of wholesale plunder. I have never seen a Yankee trick north of Mason and Dixon, quite so successful as this. If in carrying out this praiseworthy scheme, there happens some slight inconvenience to the jaded, night-worn traveller, he must console himself with the reflection that his loss is the landlord's gain; and as considerate Jack Falstaff said to the simple travellers he was robbing—"Honest men must live." A fellow passenger told me it was not far from our route, that in company with two or three ladies, they were served with a beverage passing under the name of tea or coffee, out of the odds and ends of some tin vessels, while the potatoes and Indian cakes were appropriately handed to each guest by a strapping negro boy of 12 or 14, out of his shirt, which was adroitly held up to contain them. He had *no other article of clothing on him.*^(a) I advise every one coming from any point north of Washington to this place, to take the northern lake, or Ohio River route. It will require a few days longer, but can be accomplished with half the fatigue, and with little more than half the expense.

We were glad to get on a boat at Montgomery. Had the river been at moderate height, we should have passed down the 400 miles to Mobile in two days instead of five, owing to our frequently grounding. The Alabama is a fine winding stream, hemmed in by banks from 20 to 80 feet high. These are sometimes worn, and shelve off from the action of the stream; but are generally fringed with a great variety of forest trees, shrubs, and frequently the cane, which, springing up from the water's edge, surmounts the banks, and extends for miles in one impenetrable mass. It grows from 15 to 20 feet high, straight as an arrow and almost as thick as standing wheat. It throws out delicate branches near the tops, whose gracefully tapering foliage, at a distance, nearly resembles a field of luxuriant hemp, and these become so closely interwoven at their tops as to resemble one vast carpet of resplendent green. A variety of beautiful branching, evergreen, and deciduous oaks, heretofore mentioned, are found on the banks and bordering table lands, and occasionally the pine and other resinous trees. Here and there a magnolia may be seen shooting up with perfect symmetry for 50 to 70 feet, and bearing the dark-hued evergreen leaves, in a beautiful cone. In May and June, this is gemmed over its entire surface with beautiful snowy flowers, 5 to 7 inches in diameter and of great fragrance. The cypress that everywhere fills up the low grounds south of Virginia, is always to be found in its appropriate place here; and from nearly every tree, of whatever species, the

clinging moss hangs in graceful festoons. This appears to be exclusively an air plant. Its slender stem throws out minute tendrils or branches, some two inches long, and about the same distance from each other, and it is suspended from the twigs solely by the *mechanical* attachment of the stem. When this has become dead for a long distance from the point of its origin, the fresh shoots continue to multiply and grow on with undiminished vigor. Cattle are said to be fond of it, and if suited to impart nourishment to them, it seems improvident that such quantities of it are hung so far above their reach. This moss is exported largely to the Northern States, and is used for stuffing cushions, making beds, &c.

The Alabama, in the color of its water, its width, depth, current, and the general character of its banks, reminds one strongly of the Connecticut. When within 50 miles of Mobile, the land on either side begins rapidly to decline, and within 25 or 30, sinks almost to a level with the water. Still lower down, it assumes that amphibious state between land and water, that fits it only to bear a matted mass of useless aquatic reeds and grass, and it is appropriately employed in breeding interminable shoals of alligators, mosquitoes, and a full supply of yellow fever.

The soil on both sides of the river is almost invariably good, as is much of that in Central Alabama. It is employed mostly in the production of cotton, though corn enough is raised for consumption, and some for exportation.

Mobile occupies a low sandy level at the junction of the river with the bay, just behind the lowest forming delta, which is annually encroaching on the tide waters of the gulf. Except in its southern water view towards the gulf, and the refreshing sea breezes wafted from it, Mobile has a position as little suited both to health and taste, as any city in the Union. The real estate and business is very much in the hands of non-residents; and the few who profess to be citizens spend much of their summers and autumns at the North. When all the cities and attachés are fairly in winter quarters, it is said to contain nearly 20,000 inhabitants. There is very little present growth or improvement here, as the greater facilities and encouragement for doing business in New Orleans, have drawn off the natural increase resulting from the augmented acres brought into cultivation, which border upon the streams having their outlets at Mobile.

R. L. ALLEN.

New Orleans, December 1st, 1846.

(a) Our readers will bear in mind that the writer is here speaking of only a small class of backwoods tavern-keepers, who are to be found in a narrow locality. We dare say Southern travellers could tell a tale nearly a match to this, of their experience, *north* of Mason and Dixon.

TO RENDER PAPER INCOMBUSTIBLE.—Pound a quantity of alum in a mortar, add to it a small quantity of gunpowder, and dissolve the whole in three times its weight of water over a slow fire. Paper dipped twice or three times in this solution while it is warm, and then dried, will be incombustible.

MORE FACTS ABOUT PORK AND BACON.

SINCE the publication of my article in your September number about pork, I have received so many inquiries about the matter, that I desire to answer them through you, and as all the minutiae are desired to be known, I will commence at the beginning.

Have the hogs well fattened. To scald them you don't need a kettle as big as a thimble. The most convenient vessel is a trough to scald in. To heat a hogshhead of water, build up a fire of logs and chunks near your killing place, and heat a dozen stones as big as your head, red-hot, or as near it as you can. Put these, or a part of them, in the water until hot enough, and then take out and repeat if needed. It is the easiest way you ever heated water. If you have a trough, the stones may remain in one end while you scald in the other. When ready to cut up, lay the carcass on the cutting bench upon its back, and first take off its head leaving all the neck with the shoulder, take off the jowls, for they make excellent bacon. Now if the hog weighs over 200, cut off the ribs on each side of the back bone—if smaller, split the back-bone—take out the back-bone clear to the tail, with as little meat as possible—now cut the two halves apart, and next take out the lard, then the ribs as thin as possible—next cut out a large handsome-shaped ham, then the shoulder just as close to the point of the blade bone as you can—now trim off the tender loin, and all loose lean pieces for sausage meat, and strips of belly and skirts of fat on all the pieces for lard. Your hog is now cut into six pieces (excluding head and scraps), which will be about three-fourths of the entire weight. Lay these pieces, flesh side up, on a bench or floor, and sprinkle fine saltpetre at the rate of two ounces to the cwt., and then sprinkle or rub fine salt over them at the rate of six pounds to the cwt., and continue to pile up one piece upon another as long as you like. If the hams weigh about 25lbs. each, and do not freeze, they will salt in four weeks, being overhauled once in the time for the air to come to all parts, and to rub a little of the loose salt upon fresh looking spots. When ready to hang up, sweep off all loose salt, and smoke in a room that is not tight, and be sure never to have the fire near enough to heat the meat in the least degree—use sweet wood, and continue a moderate smoke for four or five weeks. Now take a cotton bag (the weather being still cool), big enough to cover the ham and hang loosely, and tie the mouth of it closely around the string of the ham, and as long as you let it hang, so long you will have just such good, old, sweet bacon as I do.

I am aware that this is in part a repetition of the other article, but it seems so hard to make your Down East folks understand how to make Hoosier bacon.

I will give you another detailed table of weights of a dozen hogs and all the separate parts in the spring.

Those who have written to me upon this subject will please accept this as an answer.

The price of dressed hogs, weighing 200 to 250 lbs., in Chicago at this time is 2 to 2½ cents per lb.; butter 10 to 12½ cts; wheat, first quality, 50 cents per bushel; corn 22 cents; oats 14 to 16 cents.

SOLON ROBINSON.

Crown Point, Lake Co., Ia., Dec. 23d, 1846

AGRICULTURAL PUBLICATIONS AND SOCIETIES.

I HAVE been a subscriber to your periodical from its commencement, and have witnessed with pleasure the favor it has received from an intelligent community, and now heartily congratulate you on its success and its usefulness; and indulge the hope that no friend of the great branch of national industry which it advocates with so much intelligence and ability, will be backward in still further promoting its present extended circulation.

The improvement of the agricultural condition of the State, will progress in a ratio proportionate to the intelligence possessed by the cultivators of the soil. Hence the great utility of a liberal patronage to well conducted agricultural papers, to awaken an interest and diffuse useful information; and it seems to me no means can be more efficient in promoting this end, than the circulation of such papers as the *Agriculturist* and others as conducted in this State. In connection with these papers, every county in the State should organize and keep in active and efficient operation well conducted agricultural societies, co-operating with the great State Society which has been so useful to this great interest.

Troy, December 21st, 1846.

GEO. VAIL.

A NEW MODE OF FATTENING HOGS.

A GREAT change has taken place in the minds of some of our largest planters. They are gradually dropping the system of purchasing everything used on the plantation. Numbers are making their own pork, and this is a great item in economy. A notion is now prevailing, of making pens about 6 feet square, and in winter, giving slops morning and evening, with plenty of fresh water during the day, and one ear of corn shelled in their trough at noon. The pen must have a good smooth plank floor and a shelter to protect the occupants from the sun and rain. This plan, I assure you, will produce from a six month pig on the following January, a hog weighing 200 lbs.

Permit me to offer the following suggestions to those who wish to try the above method. Erect a number of coarse cabins, say 12 feet by 12 feet. Divide these into pens, with slabs, into four apartments, making them 6 feet square. A good floor well fitted together and smooth, a water-tight roof, with a trough of plank at one end for slops, food, and water, completes the whole. I would convey the water to the houses by means of pipes of cane, or wooden troughs, so that from a large reservoir it can freely flow to each. I would make the house dark by means of a door. As for food, the course as recommended above is very good; but a small garden or patch of vegetables for the use of the hogs, would be a great acquisition. A state of repose is the best for accumulating adipose tissue on any animal, which is taught by common experience; and whenever there is an irritant, the pulmonary and cutaneous transpiration is accelerated. Consequently the fatty matter is thrown off. The French have improved on this. They take a chicken, and after making a capon of him, confine him in a narrow space so that he cannot turn nor move, and after feeding him for a few days, it is astonishing how suddenly the animal

becomes loaded with fat. Upon this principle I would make my pens contracted, in order to shut off the light and heat. A horse, for example, will not fatten, however highly fed, during our hottest summer months. This proves my theory.

The benefit of this manner of feeding is its cheapness and convenience, as one hog will consume during the year, just two barrels of corn. Some one has recommended building a pen near each negro cabin, and making the occupant regularly feed and water the hog. At the same time promising to give him an eighth, or a quarter of the animal when sold. This will stimulate him to feed him well.

JAMES S. PEACOCKE.

Redwood, La., October 26th, 1846.

VALUABLE RECIPES FOR COOKING INDIAN CORN.

THE two following recipes from A. Barclay, Esq., H. B. M. Consul at New York, we extract from the *Memoir on Indian Corn*, lately compiled under the direction of the American Institute. It was after these recipes that the samples of excellent hommony and hommony bread were made and presented to the New York Farmers' Club by Mr. Barclay, a notice of which will be found on page 203 of our last volume.

How to Make Hommony.—Wash a pint of grits (particles of flint-corn ground to one-fourth the size of a grain of mustard, with the finer parts of the flour separated by a sieve) in two or three waters, taking care each time to let them settle. When you pour off the water the grits must be well rubbed with the hands in order to separate them from the finer particles of flour. Then put them into a saucepan with a pint of water slightly salted, and let them boil slowly for nearly half an hour, occasionally stirring the mixture as soon as it begins to boil.

Hommony may be boiled to any consistency, that may be preferred, from that of mush to the dryness of rice.

Excellent Hommony Bread.—Break 2 eggs into a bowl and beat them from five to ten minutes. Add by continually stirring, a salt-spoon of table salt, 4 or 5 tablespoonfuls of hot hommony reduced nearly to the consistency of thick gruel with hot milk, 1 large spoonful of butter, and a pint of scalded Indian meal squeezed dry. Make up the mixture into small loaves or round cakes 1½ inches thick, and bake in a brisk oven.

EXPANSION OF BODIES BY HEAT.—A mass of lead that occupies the space of 350 cubic inches at 32° F. will expand, if heated to 212° to 351 inches. Glass, by the same increase of temperature, expands 1-1200th part of its bulk; mercury, 1-55th part; water, 1-22d part; and alcohol, or spirit of wine, 1-9th part of its bulk.

A bar of glass 1200 inches long, will increase in length by the change of temperature from 32° to 212° F., 1.04 inches. A bar of platinum, of the same dimensions and change of temperature, will lengthen 1.04 inches; steel, 1.47 inches; iron, 1.51 inches; copper, 2.4 inches; brass, 2.3 inches; tin, 2.9 inches; lead, 3.45 inches; and one of zinc, 3.6 inches.

Ladies' Department.

REPLY TO REVIEWER ON KNITTING, &c.

WILL you once more allow me to occupy the residue of some half-filled page, in order to correct a slight typographical error in my answer to Solus' article on "Knitting," published in the August number of the *Agriculturist*? which, trifling as it appears to be, is sufficient to throw an air of ridicule on the evening amusements of my country gentlemen. What I wrote was intended to recommend knitting, basket-making, &c., as a change from the equally pleasant but more elegant employments of "drawing, and carving (not *carrying*!) in wood."

I do not remember, and have not time just now to look, whether the reviewer who noticed my little article on gardening, meant to "handle" the article itself, or only some notable error in it, "without gloves;" but he certainly does accuse me of "using too many words." A crusty codger he must be, to wish to deprive a woman of one of the very few privileges even nominally allowed her! Now had I been a little more "discursive," the printer could not have made me say anything so queer; for I should have told of beautiful models of rural architecture *carved in wood*, and fine casts in plaster of favorite domestic animals, made by two brother farmers during the evenings of last winter, by the brilliant light of a lard lamp. I should have mentioned exquisitely finished drawings, and good paintings of various subjects, the products of the leisure hours of a Pennsylvanian farmer, whose sisters "trundle that wheelbarrow," wear those gloves, and gum elastic shoes, and "work in the garden every day before breakfast," and who enliven the refined labors of the family every evening, by "thumping the piano," and singing in a style that would touch the heart of Reviewer himself—if he had one! But probably he is some stiff, crusty bachelor, whose far-off cousins sat for his not too attractive portraits of American farmers' daughters. Sisters he cannot have, and as he has been so unfortunate in his female acquaintances, he deserves our pity. One thing more I can tell him,—that I will be as "discursive" as I please, and write about wheelbarrows, governesses, country schools, and "black babies," if I like, into the bargain.

I had determined resolutely to read nothing more of Reviewer's critiques; yet I could not help looking, just to see what he said about "knitting," and then, to use a phrase borrowed from Salmagundi, I indulged myself "in a burst of thirty feet of solid laughter" at the idea suggested by his advising "Solus to go where he can get his stockings knit at home." To have the good offices of the little old maid contended for because she can use her knitting needles, and dares to boast in print of this, her only accomplishment, has so much real fun in it, that I have felt sorry that my incognita would not allow me to let any one share in my mirth. I have laughed off at least *two wrinkles* from my brow, for which I thank him, as in duty bound. But if he had seen me throw aside my knitting—a slipper—a *man's* dressing slipper, I believe—and take the pen to write the above very *amiable* remarks, he never would have thought of his pleasant

ingle-side, home-knit stockings—Solus' *beau idéal* of domestic comfort, and my cross-looking, tidy, little ladyship as connected therewith, I know.

Reviewer may be assured he shall not laugh me out of my fancy for urging my young countrywomen to cultivate a taste for gardening; and telling them what I have found to be the best methods of gaining health and pleasure at the same time; and as to scolding me from my purpose, let him try to remember if he ever heard of a woman who was not always confirmed in her own way by opposition. But to be serious for a moment. Can any one point out a purer pleasure, or a more mind-ennobling pursuit in which a woman of cultivated taste, and refined feelings, can be engaged, than in the active care of a garden? For myself, I would rather relinquish a hundred other gratifications, than give up the feelings of chastened enthusiasm excited by everything connected with it. When I am grieved in spirit, or vexed in temper, by the unavoidable cares of my little world, I go out and *work* in my garden; and in the healthful exercise of the body, and the beautiful soul-subduing quiet that pervades the place, and steals like a healing balm over my mind, I soon forget my troubles,—and restored to peace, cheerfulness, and comfort, return to household cares and duties, prepared to meet them with a calm, if not a smiling face.

When I am happy, I go to the garden, and find the flowers take a brighter hue, and the birds sing more joyously their welcome to me; then "looking through nature up to nature's God," my whole soul rises in thankfulness to "the Giver of every good and perfect gift," for all his manifold mercies to the children of men.

Patience, for a moment more, good Mr. Editor, and, knitting again in hand, I will take leave of pens and printers, after wishing Reviewer speedy success in his search for a *knitting* wife (he does not use tobacco?) who will humor his love for sour craut, and every other harmless whim, and sympathize in his abhorrence and contempt for "dried cabbage leaves" And, for many bright years to come, may he

"Make a happy fireside chime
For weans and wife—
That's the true pathos and sublime
Of human life."

Eutawah.

E. S.

MUSICAL BELLS FOR COWS.

AN accomplished and somewhat romantic French lady, on visiting the château of a distinguished nobleman, says, I have heard for the first time, an admirable and enchanting sound, which, if generally established, would add an inexpressible charm to the other beauties of a rural life. This was no less than an inconsiderable herd of shining cows, each with a musical bell attached to her neck, attuned with the greatest nicety, of several octaves, high and low—forming a delicious, yea, a kind of celestial music, the sweetness of which has a powerful effect on the imagination, and cannot be listened to without experiencing a sensible emotion.

This, Mr. Editor, the farmers may say, is all gammon, and will produce no butter and cheese; but, allow me to tell you, it is practicable; and I have little doubt that many a gentlewoman, after

reading this, will have musical bells attached to her cows, and that the milk-maids will employ them in tuning their voices to many a glee over their well-filled pails. A beautiful herd of cows with these harmonic bells, attuned with art, grazing on their sunny green slopes, interspersed with copses of wood and sylvan clumps, could never be observed by a lady of refined taste, without awakening associations full of interest and of the highest gratification.

CATO.

Ashley, Mo., October 19th, 1846.

Boys' Department.

BUYING APPLES.

Two boys, James and Robert, received six cents each to buy apples. James purchased two dozen of small Lady Apples, one inch in diameter; but Robert, more considerably, bought with his money two large Pippins, three inches in diameter. On their way to school, the question rose, which had made the best bargain. James contended, that, as he had the most apples in number, and as they made a larger pile when placed together, he had spent his money to the best advantage; but as Robert differed from him in opinion, it was agreed that the matter should be referred to their teacher at the first convenient opportunity after they should arrive in school.

The teacher, after hearing the statement of each, requested James to compute the cubic contents of a globe one inch in diameter, and then as the apples

resembled small globes in their form, to determine the number of cubic inches in 24 little globes of the same size. James, being good at figures, went immediately to work, and soon ascertained that the contents of a one-inch globe were equal to 5236-10,000th part of a cubic inch, and that 24 such globes contained a little more than $12\frac{1}{2}$ cubic inches, which his teacher told him was about the amount of solid matter his apples contained. Robert, meanwhile, had taken the hint, and calculated the contents of a three-inch globe, which he found to contain more than 14 cubic inches, whence it was evident, that he had expended his money to more than double the advantage.

James, chagrined at this, and determined never to be caught so again, set himself to work and made the following table, by multiplying the diameter of each apple or globe three times into itself, and the products by the constant number 0.5236.

Diameter of Apples. Inches.			Cubic contents. Inches. Dec.		Value of Apples. cts. in.
1	-	-	0.5236	-	0 1
$1\frac{1}{4}$	-	-	1.2266	-	0 3
$1\frac{1}{2}$	-	-	1.7672	-	0 4
$1\frac{3}{4}$	-	-	2.8062	-	0 6
2	-	-	4.1888	-	0 9
$2\frac{1}{4}$	-	-	5.9642	-	1 3
$2\frac{1}{2}$	-	-	8.1813	-	1 7
$2\frac{3}{4}$	-	-	10.8892	-	2 3
3	-	-	14.1372	-	3 0

The above principles will apply for general purposes, in purchasing plums, peaches, oranges, and all kinds of articles of a globular form. B.

FOG, VAPOR, CLOUDS, RAIN.

Q. Where does all the water of springs, brooks, and rivers, finally run?

A. It runs into the sea or ocean.

Q. Do these streams raise the surface of the sea?

A. By no means; the water goes back again to the land.

Q. In what form does it do this?

A. In the form of clouds and rain.

Although the water of the ocean is salt, rain water is not so; because only the fresh part rises in the form of vapor.

Q. How are clouds produced from the sea and other bodies of water and land?

A. By fog and vapor, which rises from their surface.

The clouds formed in this manner, are driven by the wind over different portions of the earth; and in this way the earth is kept constantly supplied with refreshing showers of rain.

Q. What causes fog and vapor to rise?

A. The warmth of the earth and sun.

"But there went up a mist from the earth and watered the whole face of the ground."—Bible.

Q. What is this process called?

A. It is called evaporation.

The "drying up" of water, as we term it, is called evaporation, as steam rising from a vessel of hot water. Hay is made from evaporation.



FOG RISING FROM THE OCEAN AND FORMING CLOUDS.—FIG. 13.

Q. What appears to be the order in which clouds, rain, springs, &c., are formed?

A. The rain forms springs;
The springs form rivers;
The rivers run into the sea.
The sea gives vapors;
The vapors form clouds;
The clouds give rain again.

"All the rivers run into the sea, and yet the sea is not full; into the place from whence the rivers come, thither do they return again."—Smith's First Book of Geography.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer *Hibernia*, we are in receipt of our foreign journals up to January 5th.

MARKETS.—*Askes* quiet with moderate sales. *Cotton* has advanced altogether the past month from $\frac{3}{4}$ to $1\frac{1}{4}$ d. per lb. Stock on hand in Liverpool on the 1st of January, 438,970 bales, against 885,480 at same period last year. *Flour* has advanced 6s. 6d. to 6s. per bbl.; *Wheat* 1s. 6d. per bushel; *Corn* 12s. to 14s. per quarter; *Corn Meal* 4s. per bbl. *Beef* and *Pork*, a slight improvement. *Lard*, a decline. *Cheese*, firm. *Hemp*, an advance of £2 per ton. *Naval stores*, little doing. *Rice* an increased demand at a slight advance. *Tobacco* a decline of $\frac{1}{4}$ d. per lb. *Wool* in fair request, at lower prices than last year at this time.

Money continues abundant without any change since our last.

Smithfield Cattle Show.—This great annual show of fat cattle, &c., came off as usual, in December last. It is said there were 59 more entries than the previous year. We notice Prince Albert and several distinguished noblemen among the exhibitors. They carried off a fair proportion of the prizes. The Prince is said to excel particularly as a breeder of swine. We observe that the Herefords obtained the best and greatest number of prizes of any other breed. Whether this is to be attributed to their superior numbers, and the pains taken in selecting them for the exhibition, we are unable to say. This is certain, however, that Short Horns still continue too valuable to make fat beasts of.

American Wool.—Notwithstanding the discouraging results to a few enterprising shippers, this article promises at no distant date to become of first rate importance. It is important to notice the great weight of the fleece, which is nearly double that of any other country producing the same qualities. Receipts last year were below the previous one.

Beet-root as a Substitute for Flour.—A Belgian gentleman has made numerous trials of the process invented in Germany for making cheap bread, by mixing wheat flour and roasted beet-root, and these trials have perfectly succeeded. The poor families to whom some of the bread has been distributed, have declared that they like it quite as well as the ordinary second bread.

Products of the Sandwich Islands.—Samples of sugar, cotton, and wool of excellent quality, grown in the Sandwich Islands, have been forwarded to Liverpool, and they formed objects of considerable attraction at the underwriters' rooms last week.

Culture of Cotton in Turkey.—The Turkish Government has had several varieties of cotton seeds, and men competent to superintend their culture, recently brought from America, for the purpose of trying the experiment of cultivating the American varieties of cotton in the different provinces of the empire, in which every kind of climate exists.

Advance in Spanish Wool.—The latest accounts from Spain fully confirm the previous statements of great losses in the flocks from severe drought, and there is every prospect of a serious deficiency in the next clip of wool, which has already led to an advance in prices.

Exportation of Beet-root Sugar from France.—The Minister of Commerce has just issued a royal ordinance authorizing the exportation of beet-root sugar to foreign places. This measure will have the effect of enabling the French sugar-makers in France to send their goods to England. In the third month of the present sugar-making season, the production of beet-root sugar in France amounted to $16\frac{1}{2}$ million kilogrammes, being an increase of $6\frac{1}{2}$ millions over the corresponding period of last year.

Reduction of Duty on Grain in Denmark.—In Denmark, the import duty on corn, oats, and flour has been considerably reduced by a royal ordinance of the 9th of December.

Sulphur in Food.—According to M. Dumas, of the Paris Academy of Sciences, sulphur may travel through the air, from the sulphates which contain it, in large bodies of water, to lands which require it for vegetation or for the production of the animals which live on the plants produced by these lands. It is worthy of remark, that yellow sulphur performs an important part in the production of all azotized substances of plants and animals. They contain, on an average, a 1000th part of their entire weight. Thus, 10 kilogrammes of dry azotized matter, which is about the quantity in a man of ordinary size, contain 100 grammes of sulphur.—*Athenæum*.

Geese.—Where there is water, or a common for them to feed on, geese may be profitably reared, and with very little trouble, and the feathers are always valuable. When first hatched, do not let them wander far, but the old goose must not be shut up. A yard or empty barn is the best place for the goslings for the first week, letting them out two or three hours each day to feed on grass. It has been often remarked that cattle are rarely unhealthy where any considerable number of geese are kept, for the geese will eat and thrive upon certain weeds and grasses which are more or less unwholesome for cattle, and which are mingled with the herbage in most pastures. Most farmers are aware of this, and a sickly cow or bullock is not unfrequently turned into a field where geese have been allowed to range, with the view of its deriving benefit from the change. The grass on commons, on which geese are kept, is always fine and sweet.—*The Farmer*.

Culture of Rice in the Papal States.—Accounts from Italy inform us that the papal government has just taken a measure of great importance to the agriculture of the Roman states. The rice fields in some parts of the country are the blessing of the people, but in many districts the crop has often failed. A distinguished economist has proved that this is owing to the faulty method of its cultivation, and has made experiments in the district of Cervetri, near Rome, which have been attended with the happiest results. The Pope, fully appreciating the value of a proceeding which tends to an extension of this article of food, has nobly rewarded the experimentalist; and, by a recent decree, has ordained that the whole of the valley between Ostia and Porto d'Anzo, about 300 kilometres in extent, and the property of the state, is to be appropriated to the culture of rice on an extensive scale. One half of the crop is to be sold for the state, and the other half to be given to the poor. This decree has had a wonderful effect, and the works were commenced immediately for conveying the waters of the Nemi, which are to irrigate the plantations established in the valley.

Hen-Dung as Manure.—The dung of fowls kept dry is excellent, and may be applied for all the purposes for which other manure is applied; but, being of a hot nature, like pigeon-dung, it must be applied in small quantities and mixed with the soil, or some other material, so as in some measure to counteract its burning effects.—*Gardeners' Chronicle*.

The Production of Wool in Germany has taken such a remarkable development, that Germany now takes the lead of all nations in the production of that article. In the states of the Customs' Union alone there are 21,961,534 sheep, yielding at the lowest calculation 48½ million lbs. of wool per annum. Austria produces 700,000 quintals per annum, two thirds of which come from Hungary, Transylvania, and Bohemia.

Culture of Hops.—An order has been received to ship 50,000 sets of Kentish hop plants for Hobart Town, where the soil and the climate are said to be most congenial. An inferior sort has been tried there experimentally, and found to turn out more than equal to the planter's expectations.

Editor's Table.

GUN-COTTON.—We have received from Dr. C. T. Jackson, of Boston, an account of his success in the manufacture of the celebrated gun-cotton, which has excited so much interest of late throughout Europe as well as in our own country. He obtained the best article by mixing in a current of air, equal measures of sulphuric acid (specific gravity 1.92 to 1.96) and nitric acid (sp. gr. 1.455), and stirring them well together with a glass rod until the temperature of the liquid fell to about 130°F. He then took some clean, well-picked Sea Island cotton, dried it at a temperature of 212°, immersed it as quickly as possible into the acids, and let it remain covered by them from three to five minutes. He then poured off the liquid, squeezing out as much of the remaining acid as he conveniently could, and then subjected the cotton to repeated washings in cold water by rapidly stirring it with a glass rod, so long as a trace of acidity remained, which he determined by blue litmus paper. The cotton was then squeezed dry as possible in a cloth, and immediately after in blotting paper; and the fibre, after being straightened and picked loose, was dried in the open air, at a temperature below 212°F. Cotton prepared in this manner explodes without odor or smoke, leaving little or no residue, and is totally insoluble in ether. The operation twice repeated, in strong acids, it is said, renders the cotton thirty-six times more powerful than an equal weight of gunpowder.

In the course of his experiments, Dr. Jackson ascertained that a tolerably good article can readily be made by employing the acids a second time, without re-distillation, first by soaking therein the cotton for twenty-four hours, and then treating it in every respect in the manner above described. The cotton prepared in this way will resemble the other in appearance, and will explode nearly as well; but in burning on white paper, it will leave a yellow stain. It is completely soluble in strong sulphuric ether, giving out a great number of gaseous bubbles as it dissolves. This ethereal solution is thick and ropy like the white of eggs, and makes an excellent varnish for pictures and an impermeable covering for paper or cloth, as well as a good proof cement. Evaporated spontaneously in a watch crystal, it becomes transparent as glass, yet it is tough like horn, and is not in the least explosive. It is insoluble in acetic acid, and hence differs from xyloidine discovered by Braconnot, in 1833, and was afterwards more fully noticed by M. Pelouze, in 1838, the latter of whom stated that "it was very combustible, took fire at 360°, and burnt with vivacity," which he thought probable, at some future day, might render it valuable in artillery. It differs, likewise, from xyloidine, according to Dr. Jackson, in many other respects, and is doubtless a new substance. Professor Schönbein, of Basle, and his associate M. Böttger, at all events, have the credit of the discovery of the first application of this remarkable substance to useful purposes, although the method employed by them for its manufacture has not as yet been made public.

When properly prepared, gun-cotton increases at least one-half in weight, rapidly burns with a voluminous yellow flame, at a temperature of about 350°F., although it has frequently been known to explode as low as 212°. Hence the utmost caution is necessary in its preparation as well as in its use. It burns so much more rapidly than gunpowder, that the latter, when placed in immediate contact, is not inflamed by it, and no inconvenience is felt by burning a flock of it on the naked hand. It detonates with some difficulty when struck with a hammer on an anvil, unless heated to nearly the exploding point. Wetting does not appear to injure it, if it be quickly and carefully dried.

The explosive, or projectile force of gun-cotton is much more effective than that of powder. An interesting experiment was made on the 4th of December last, in blasting a ledge of rock then excavating for the new canal, in Lowell, Mass., under the supervision of Mr. Wm. E. Worthen, the engineer. About 78½ oz. of gun-cotton were enclosed in a "Vulcanized" India-rubber cloth case, five inches in diameter, and three feet long; and then let down by its fuse, into a hole, drilled in the rock, five inches in diameter and nine and a half feet deep, and afterwards covered with six feet of dry sand. The explosion, it is said, was accompanied with a report not louder than a musket shot, and the mass of rock rent off was estimated to weigh about 350 tons, an effect, it is thought, which would require in gunpowder about 10 lbs.

Gun-cotton has been rejected for military purposes by the British Board of Ordnance, on account of its exploding at a much lower temperature than gunpowder, and also from its producing moisture within the gun.

We have been thus particular in describing the nature of this important substance, both on account of its interesting scientific detail, and the increased demand for cotton which is likely to arise from its use in blasting rocks, and probably for many other purposes.

HONORABLE TESTIMONIAL.—The American Institute has very properly manifested its approbation in awarding Mr. Browne, for his treatise on the Trees of America, its highest premium, a GOLD MEDAL; and it is evident that those who make themselves acquainted with the contents of this valuable work, will be convinced that this high mark of respect has been justly bestowed.

EARLY SALADS.—The preparation for raising early salads and other spring vegetables is one of the most important duties of the farmer or gardener. Those who have a desire to have good lettuce, endive, dwarf cabbages, cauliflower, broccoli, parsley, asparagus, radishes, &c., early in the spring, need not be under any apprehension of the difficulty, providing they are willing to be at the expense of a few frames. These may be made of stout planks, with the back one two feet deep, the front one fifteen inches, and the sides sloped towards the mid-day sun. The width may be about six feet, and the length, which may be varied at pleasure, should be divided into compartments of three feet, over each of which there should be fitted a window or sash so arranged as to be more or less withdrawn or replaced. These frames are usually set upon hot-beds formed of fresh horse manure, two or more feet in depth, and covered with six or eight inches of fine compost or warm garden mould. As soon as the frames are put down, the sashes should be placed over them, allowing the fumes of the manure to pass off for three or four days, occasionally opening the frames and stirring up the soil. The seeds may then be sown either in drills or broad-cast, and the two following points attended to without fail, viz., *to promote the circulation of dry air or winds through them at all times, and to keep out frost.* During cold nights, the latter may be done by covering the frames with matting or straw, and fresh air may be supplied by slightly removing the sashes in the warmer parts of the day. Hot-beds and frames should always be placed over a well-drained spot, receiving the full effect of the sun, and protected from cold chilling winds.

A NEW FEATURE IN CATTLE SHOWS.—At the recent Agricultural Fair in Burlington, Vt., Mr. L. Chase presented for premium three pretty female children, two and a half years old, born at a birth. The committee on Household Manufactures awarded him \$14, which was voluntarily contributed by the old bachelors present, who said they considered him a legitimate object of charity.

THE POTATOE PLANT, its Uses and Properties; together with the Cause of the Present Malady, the Extension of that Disease to other Plants, the Question of Famine arising therefrom, and the Best Means of averting that Calamity. By Alfred Smee, Surgeon to the Bank of England, &c. &c. Illustrated with 10 Lithographs, and dedicated to His Royal Highness the Prince Albert. New York: Wiley & Putnam. pp. 157, 12mo. Price 75 cents. This is a work that has evidently required much laborious research in its preparation, and throws a great deal of light on the subject of which it treats. It contains the most perfect account of the potatoe plant, and the insect inhabiting it we have ever met with, which, if from no other considerations, entitle the book to a wide circulation.

We do not agree with the author, however, in his theory as to the cause of the potatoe disease, nor do we believe it is within the reach of human perception to explain it. The grounds on which he forms his opinion are mainly as follows:—The potatoe plant, as we cultivate it, he contends, is in an abnormal or diseased condition, having great excess of tuber and great deficiency of leaves; and that its death, in the form of the prevailing malady, is influenced, but not caused, by heat, light, electricity, moisture, soils, and manures. The direct cause of the disease he attributes to the work of a little insect he designates by the name of *Aphis vastator*, which punctures the leaf, sucks the sap, and destroys the relation between the leaf and the root, thus causing the leaf or some other part of the plant to become gangrenous, or, in other words, to die. After this attack, several species of fungi take root, the growth of which, he thinks, in many cases, is probably materially assisted by the prior attack of the *Aphis*. The same insect, also, he says, preys in a similar manner upon the turnip and cabbage tribe, the beet, the carrot, the horse-radish, the tomato, the sweet potatoe, the Jerusalem artichoke, wheat, clover, Indian corn, and doubtless many other plants. He infers from analogy that the disease is transitory, and will pass over the globe, and then disappear; yet it may increase, and kill millions from famine before it finally departs. The evil may be lessened, he thinks, by striking at the cause, and destroying the *Aphis* to as great an extent as possible, by employing birds for the purpose, as well as ichneumon, lady-bugs, spiders, &c., by burning infected haulms, and isolating from each other all plants liable to be attacked.

The *Aphis*, when fully grown, he says, is about the tenth of an inch long, the color of which is white, olive-green, brown, or inclined to red. It is found in all the three stages of existence—the larva, the pupa, and the imago, or perfect winged insect; and in all which states, like its congeners, it feeds, remains active, and probably multiplies.

The author is in error when he states that "the first figure of a potatoe is to be found in Gerard, Herbal (1597)." It is figured and described in Cieqa's "Chronicles of Peru," published at Seville, in 1553. A few of the directions in the work are exceptionable, or at least are ill adapted to the climate of the northern and middle parts of the United States. For instance, he recommends the sprinkling of dry quick lime over the plants, for the purpose of destroying the *Aphides* as soon as they appear, and even autumn planting as a means of preserving the potatoe against the disease. It is well known that quick lime too profusely applied to the young leaves of many plants, will cause them to die; and by planting potatoes in autumn, within any reasonable depth, in the northern parts of the United States, they would be destroyed by the winter frost.

THE MAGAZINE OF HORTICULTURE, Botany, and all Useful Discoveries and Improvements in Rural Affairs. Edited by C. M. Hovey. Published monthly by Messrs. Hovey & Co., Merchants Row, Boston, and Saxton &

Miles, New York. Price \$3 a year. This excellent and standard periodical has reached the first number of the 13th volume, and has been well sustained from the commencement up to the present time. We congratulate the publishers on the well-earned success which has ever attended their enterprise, and trust that their work will, as usual, meet with deserved encouragement.

THE USEFUL ARTS, considered in connection with the Applications of Science. With Numerous Engravings. By Jacob Bigelow, M. D. Professor of Materia Medica in Harvard University. In 2 volumes. New York: Harper & Brothers. pp. 396 each. 12mo. Price \$1.50. These volumes were prepared at the request of the publishers of the School Library, now issuing under the sanction of the Massachusetts Board of Education. Most of the subjects contained in them were formerly comprised in a course of lectures delivered by the Author in Harvard University, and afterwards published in a treatise entitled "Elements of Technology." The work, in its present form, presents various modifications and additions, and brings the account of its subjects down to the latest dates.

AN INTRODUCTORY GEOGRAPHY, Designed for Children. Illustrated with 126 Engravings, and 20 Maps. Fourth Edition. By Roswell C. Smith, A. M. New York: Paine & Burgess, 60 John Street. pp. 176. Price 37½ cts. We like this little book, not only for its bold, effective, and instructive maps and cuts, but for its clear, concise, and intelligible text, which render it by far the most judiciously condensed school geography, and we may almost say, philosophical work, we have ever met with. It seems better suited to teach the young than any other similar work in public use; or rather it is better suited to enable them to teach themselves, being simply and familiarly arranged in a catechetical form, which, before all others, is equally well adapted to the minds of beginners as to those of older pupils for the purpose of review. For a specimen of the work, see p. 66 of the current volume.

A TEXT BOOK ON CHEMISTRY. For the use of Schools and Colleges. By John W. Draper, M.D., Professor of Chemistry in the University of New York. With nearly 300 illustrations. Third edition. New York: Harper & Brothers, 82 Cliff st. pp. 408, 12mo. Price 75 cents. This excellent work contains the outline of the course of lectures delivered by the author, every year, in the University, and is also intended for the use of colleges and schools. The high standing of Dr. Draper as a chemist, and the popularity of the previous editions of this work, we trust will be a sufficient recommendation for the present.

THE ECLECTIC MAGAZINE of Foreign Literature for January contains a valuable selection of articles from the standard Periodical Literature of Great Britain. We give their titles as follows, indicating the sources whence they are derived: "Constantinople in the Fourth Century," from the London Quarterly; "Herder, the German Poet," from the Foreign Quarterly; "A Postscript about John Foster," from Frazer; "Schlosser's History of the Eighteenth Century," from the Eclectic; "Fortifications of Paris," from the London Quarterly; "Quinet's Vacations in Spain," from the Westminster; "Advice to an intended Serialist," from Blackwood; "The Facts and Revelations of Modern Astronomy," from the North British Review; "Adolphe Thiers," from the Dublin University; "Style of Walter Savage Landor," from the North British Review; "English Journalism," from Frazer; "Husband Catching," from Tait. In addition to these is a copious "Miscellany." There are also several Poems of sterling merit. The work is published monthly by Wm. H. Bidwell, 120 Nassau st., N. Y., at \$6 a year, and is highly deserving of the patronage of families, and all others who have a taste for popular reading and sterling literature.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JANUARY 26, 1847.

ASHES, Pots,.....per 100 lbs.	\$4 87	to	\$5 00
Pearls,.....do.	5 50	"	5 62
BALE ROPE,.....lb.	5	"	6
BARK, Quercitron,.....ton.	30 00	"	31 00
BEANS, White,.....bush.	1 12	"	1 50
BEEFWAX, Am. Yellow,.....lb.	26	"	30
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	16	"	25
Shipping,.....do.	9	"	13
CANDLES, Mould, Tallow,.....do.	9	"	11
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	6 00	"	7 00
CORPAGE, American,.....lb.	11	"	12
COTTON,.....do.	10	"	14
COTTON BAGGING, Amer. hemp,.....yard.	11	"	14
FEATHERS,.....lb.	25	"	34
FLAX, American,.....do.	7	"	8
FLOUR, Northern and Western,.....bbl.	6 38	"	7 00
Fancy,.....do.	7 00	"	7 25
Southern,.....do.	6 38	"	6 75
Richmond City Mills,.....do.	7 25	"	7 50
Buckwheat,.....do.	4 00	"	4 25
Rye,.....do.	4 75	"	5 00
GRAIN—Wheat, Western,.....bush.	1 30	"	1 40
Southern,.....do.	1 25	"	1 35
Rye,.....do.	88	"	90
Corn, Northern,.....do.	95	"	99
Southern,.....do.	88	"	95
Barley,.....do.	70	"	71
Oats, Northern,.....do.	44	"	45
Southern,.....do.	40	"	41
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.	56	"	62
HEMP, Russia, clean,.....ton.	220 00	"	225 00
American, water-rotted,.....do.	105 00	"	185 00
American, dew-rotted,.....do.	75 00	"	125 00
HIDES, Dry Southern,.....do.	7	"	8½
HOPS,.....lb.	9	"	12
HORNS,.....100.	1 00	"	7 00
LEAD, pig,.....do.	4 31	"	4 38
Sheet and bar,.....lb.	4½	"	5½
MEAL, Corn,.....bbl.	4 75	"	5 00
Corn,.....hhd.	18 50	"	20 00
MOLASSES, New Orleans,.....gal.	39	"	34
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 00	"	2 25
Pitch,.....do.	88	"	1 06
Rosin,.....do.	50	"	60
Turpentine,.....do.	2 75	"	3 00
Spirits Turpentine, Southern,.....gal.	38	"	41
OIL, Linseed, American,.....do.	60	"	63
Castor,.....do.	55	"	70
Lard,.....do.	65	"	70
OIL CAKE,.....100 lbs.	1 50	"	1 75
PEAS, Field,.....bush.	1 00	"	1 50
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls.,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	9 00	"	10 00
Prime,.....do.	7 00	"	8 00
Smoked,.....lb.	6	"	9
Rounds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	10 50	"	13 00
Prime,.....do.	9 00	"	10 25
Lard,.....do.	8	"	9
Bacon sides, Smoked,.....do.	5	"	6
In pickle,.....do.	4	"	5
Hams, Smoked,.....do.	6	"	10
Pickled,.....do.	5	"	8
Shoulders, Smoked,.....do.	5	"	6
Pickled,.....do.	4½	"	5
RICE,.....100 lbs.	3 37	"	4 38
SALT,.....sack.	1 25	"	1 32
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	6	"	9
Timothy,.....7 bush.	11 00	"	20 00
Flax, clean,.....do.	10 25	"	11 25
rough,.....do.	9 00	"	9 25
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	6½	"	9
SUMAC, American,.....ton.	35 00	"	37 50
TALLOW,.....lb.	8	"	9
TOBACCO,.....do.	2	"	7
WHISKEY, American,.....gal.	26	"	27
WOOL, Saxony,.....lb.	35	"	60
Merino,.....do.	25	"	30
Half blood,.....do.	20	"	25
Common do,.....do.	18	"	20

REMARKS.—The late news from Europe is most important, and has had a great effect on the market. *Ashes* have slightly advanced; *Quercitron Bark* \$4 per hhd.; *Cotton* 1 to 1½ ct. per lb.; *Flour*, \$1.00 to \$1.50 per bbl.; *Rye Flour*, \$1.00 per bbl.; *Wheat* and *Rye* correspondingly per bush.; *Corn* 10 to 15 cts. per bush.; *Barley* and *Oats* from 5 to 6 cts.; *Guano* ½ ct. per lb.; *Oil Cake* 25 cts. per 100 lbs.; *Provisions* from \$1 to \$2 per bbl.; *Lard* 1 ct. per lb. In *Naval Stores* there is a slight depression.

It is now settled beyond a doubt that Great Britain and Ireland, France and part of Germany, are in great want of bread stuffs, and that the demand for these from America will be very large during the year. Prices, therefore, must rule high. This will make it very advantageous for our farmers, and place them in a more prosperous condition than they have been for the last ten years.

TO CORRESPONDENTS.—Communications have been received from Ansel Downs, E. S., Reviewer, John Brown, 2d, R. L. Allen, R. T. Underhill, W. D., and Andrew Stone.

ACKNOWLEDGMENTS.—Transactions of the Worcester County (Mass.) Agricultural Society for the year 1846; Hensstead, L. I. Inquirer containing a list of Officers of the Queen's County Agricultural Society for the ensuing year; Alabama Planter; Boston Independent Inquirer; The Yankee in Fairfax County, Va.; Addresses delivered at the 19th Annual Fair of the American Institute, by Hon. Henry Meigs, V. P. Adoniram Chandler, Hon. George Folsom, and Harman C. Westervelt, Esq.; Charter and By-Laws of the American Agricultural Association; and beautiful samples of wool, from E. Bridge, Pomfret, Vt.

Persons who return the American Agriculturist are requested to write their names and Post-office on the wrapper, in order that we may know from whom they come.

Back Volumes of THE AMERICAN AGRICULTURIST, with tables of contents complete, for sale at \$1.00 each; elegantly and uniformly bound in cloth, \$1.25. These are handsome, tasteful books, and make very desirable premiums for distribution with Agricultural Societies, and should also find place in all our District School Libraries. They constitute the best and most complete treatise on American Farming, Stock-Breeding, and Horticulture, extant. When several copies are ordered, a liberal discount will be made.

Editors of newspapers noticing the numbers of this work monthly, or advertising it, will be furnished a copy gratis upon sending such notice marked to this office.

PERUVIAN GUANO FOR SALE.

THE Peruvian Company have directed their agent in the United States, Mr. Bartlett, to raise the price of Guano to \$50 per ton, it will now be sold by us at the following prices:—

One ton or more.....2½ cts. per lb.
Smaller quantities.....2¼ to 3 " do.
No allowance for tare, and no charge for packages. Cartage extra.

This Guano is warranted genuine, and direct from the Peruvian Company's agent. A. B. ALLEN & CO., 187 Water-street.
January 25th, 1847.

IMPERIAL OATS.

A few barrels of these superior oats just received and for Sale. Price \$4 per bbl. They are great yielders, remarkably free from husk, and weigh over 40 lbs. per bushel.

A. B. ALLEN & CO., 187 Water Street, N. Y.

THE TREES OF AMERICA,

NATIVE AND FOREIGN, Pictorially and Botanically Delineated, and Scientifically and Popularly Described; being considered principally with Reference to their Geography and History; Soil and Situation; Propagation and Culture; Accidents and Diseases; Properties and Uses; Economy in the Arts; Introduction into Commerce; and their Application in Useful and Ornamental Plantations; illustrated by Numerous Engravings. By D. J. BROWNE, Author of the "Sylvia Americana." Large 8vo. pp. 532. Price—Superbly bound in gilt morocco, \$6—in muslin extra, \$5. For sale by

SAXTON & MILES, 205 Broadway, N. Y.

PERUVIAN GUANO.

PERUVIAN GUANO, shipped by the Peruvian Guano Company, Lima, under the special authority of the government of Peru, and warranted pure as imported. All that is sent to this country is consigned to the subscriber, and will be received by him at New York, or by SAMUEL K. GEORGE, at Baltimore. Any other offered as *Peruvian*, is spurious. The price, in quantities not less than ten tons, will be \$50 per ton. EDWIN BARTLETT,
January 25th, 1847. 42 South street.

PROUTY AND MEARS' PLOWS.

Quite a variety of the above plows can be had at the New York Agricultural Warehouse, together with the most complete assortment of all kinds to be found in the United States.

From the Farmers' Library.
ANOTHER GREAT DISCOVERY IN VACCEROLOGY.
HOW TO JUDGE A COW.

SINCE the days of Doctor Jenner's discovery of vaccination, or the cow-pox, being an antidote to the small-pox, nothing has appeared so extraordinary in that department of natural history as the discovery by M. Guénon, the son of a French gardener, of the means of ascertaining the quality of *milk Cows* by external and visible signs over the milk region of the animal.

The signs have been reduced to a clear system, and by committees of various agricultural societies in France pronounced "infallible," after repeated and most careful trials.

The work was translated by Mr. Trist of the State Department, and published with numerous engravings explanatory of the system, first in the Farmers' Library. But the publishers, not willing to withhold a discovery so important and valuable from the poorest person owning or wishing to own a cow, have published it in a separate and cheap form, and it may be had at the Tribune office, or at most of the cheap publication offices in the United States.

While those who have given to this work even the slightest tests aver that with it for their guide, they are not fearful of ever again buying an indifferent Cow; others, who have been more minute and careful in applying the "signs" to living animals, declare, like the French agricultural committees, that the marks are obvious and worthy of every reliance.

The following, from sources of unquestionable veracity and practical knowledge, are submitted in proof of the truth of this wonderful discovery. But, independently of the great value of the cow-book for the purpose in question, other matters attached to it will fully recompense the purchaser for the trifling cost of the book itself, which is but 33 cents. Booksellers and Publishers may be supplied at the usual discount.

Under the operation of this system, which enables every one to select and put aside for the butcher calves that will be sure to prove bad milkers, the *whole race* of milk cattle may be rapidly improved throughout the Union. Every great discovery appears to be strange, and some of them incredible in the first instance, and few more than vaccination itself. With such testimony in support of this discovery of M. Guénon, no paper in the Union ought, we would think, to withhold a knowledge of it from their readers.

We have received quite a number of letters from different parts of the country fully corroborating the theory of M. Guénon. We select for publication the following:—

PRINCETON, Mass., October 15th, 1846.

Dear Sir: I received your favor of the 8th inst. desiring me to state my opinion of the value of M. Guénon's *Treatise on Milk Cows*, translated from the French, and published in *The Farmers' Library*. On my first meeting with this Treatise, I was impressed with its value, from my previous knowledge of some general marks whereby the milking properties of cows may, in some measure, be determined, and from the fact that I had myself noticed the oval marks above the hind teats, mentioned by M. Guénon as indicating good milking qualities, that I immediately commenced the study and application of his method to every cow that came under my observation. I have examined more than one hundred cows, and after carefully marking their escutcheons I have become satisfied that M. Guénon's discovery is one of great merit, and can be relied upon as true. I have no doubt that I can judge very nearly as to the quantity and quality of the milk any cow will give at the height of her flow, and also the time she will continue in milk after being with calf.

The way taken to convince myself of the truth of M. Guénon's method has been to visit the cow-yards of some of our principal dairy-farmers, and examine the escutcheons and marks on their cows, and make up my judgment as to the quantity and quality of milk each cow would give at the height of her flow, and how long she would continue in milk after being with calf; then inquire of the owners how much milk their several cows would give at the height of their flow, and how long they would hold out after being with calf; comparing the owner's account with my own judgment. I find I have mistaken in only five cases, out of more than one hundred examined.

I have great confidence in M. Guénon's method of testing the milking properties of cows, and consider it one of the great discoveries of the age. The advantage of this discovery to our dairy-farmers, enabling them, as I think it does, to determine the milking properties of their young stock at an early age, must be very great, and will be appreciated by every one who is in the slightest degree acquainted with the subject. In my opinion no dairy-farmer, after acquainting himself with M. Guénon's discovery, need possess himself of a bad milking cow.

M. Guénon informs us that his system is applicable to calves three or four months old. I have traced the escutcheons upon calves as early as two or three weeks old, and I see no reason why their value as future milkers may not be judged of at this age as well as at any other age. Yours, respectfully

To J. S. SKINNER, Esq., JOHN BROOKS.
Editor of *The Farmers' Library*, New York City.

PATERSON, N. J., December 19th, 1846.

Dear Sir: I have read with great satisfaction M. Guénon's work on Milk Cows, by which one can judge by certain infallible

signs, the milking qualities of the animal. I have compared the marks he gives for his first grade Flanders cow, and find they correspond with the escutcheon of my favorite *Depon Cow Ellen*, that has taken the first premiums at the two last cattle shows of the American Institute. My farmer has great faith in M. Guénon's work, and so has one of my neighbors, a knowing Scotch milk-man who keeps fifty cows. He says that after careful examination he places confidence in these marks, and they will govern him in his future purchases.

I return you my sincere thanks for giving to us farmers this valuable treatise of M. Guénon. I shall hereafter make my selection of the calves I will raise from my choice stocks from the marks given by this author. I think every farmer should own this work. With regard, yours, &c.,

ROSWELL L. COLT.

To the Editor of the Farmers' Library.
The above work is published and sold by GREELEY & McELRATH, New York, Publishers of Skinner's Farmers' Library and Monthly Journal of Agriculture. Three copies sent by mail for \$1.00. January, 1847.

SOUTHERN AGRICULTURAL WAREHOUSE.

THE subscriber has just opened an Agricultural Warehouse at New Orleans, where he will constantly keep on hand a very general assortment of plows suitable for the Southern planter, together with harrows, rollers, cultivators, horse-powers, grain threshers, rye threshers and hulling machines, fanning mills, burr stone and cast iron grain mills, corn and cob crushers, corn shellers and huskers, vegetable cutters, straw cutters, seed sowers, wheelbarrows, trucks, grain cradles, ox yokes, shovels, spades, forks, scythes, rakes, axes, hoes, picks, chains, churns, grindstones, &c., &c.

Among his plows are those from the celebrated factory of Rugles, Nourse & Mason, of Worcester; from A. B. Allen of New York; and R. Sinclair Jr., & Co. of Baltimore.

Castings of all kinds of patterns extra for the above.

Agricultural Books, a complete assortment.

Orders will be received for horses, cattle, sheep, and swine, fruit trees and shrubbery; and any other articles planters may wish to order from the north.

R. L. ALLEN.

New Orleans, Dec. 1, 1846.

A DESIRABLE FARM FOR SALE,

SITUATED in Paducah, Kentucky, on the Ohio, at the mouth of Tennessee River, containing 900 acres, 150 of which have been cultivated with grass, grain, tobacco, sweet potatoes, orchards, &c. This estate is well wooded and watered, and is in every respect adapted for a grazing or stock farm. The improvements otherwise consist of a neat commodious dwelling and kitchen, a smoke house, an out-house for servants, stables for cattle, a tobacco barn with a press, and a large cistern lined with cement. If desirable, the purchaser can have at a reasonable rate, all the stock, household furniture, and implements on the place, most of which are nearly new and in good condition. Price of the farm \$3,000. Terms easy. For further particulars apply personally or by letter, post-paid, to A. B. ALLEN, 187 Water st. N. York, or the subscriber on the premises. EDWARD TROYE

Paducah, Ky., Jan. 4, 1847.

FARMERS', GARDENERS', AND PLANTERS' STORE.—A. G. MUNN, Louisville, Ky.

500 bush. clean Kentucky Blue Grass	} All warranted crops of 1846.
500 " " " Orchard Grass,	
300 " " " Red Top,	
200 " " " Red Clover,	
100 " " " Timothy,	
200 " " " Hemp-seed,	
200 " " " Barley,	
200 " " " Rye,	
100 " " Heavy Seed Oats, 40lbs. per bushel,	

Also—Lucerne, White, Dutch Clover, Millet, Potatoes, Artichokes, Beans, Yams, Apple Seeds, Peach Pits, &c. &c. together with a large stock of FRESH GARDEN SEEDS, by the pound, ounce, or in papers, put up to suit any market. A liberal discount made to dealers.

Also a large stock of Agricultural and Horticultural Implements, such as Plows, Harrows, Corn-shellers, Cultivators, Straw-cutters, Fanning-mills, Hoes, Rakes, Spades, Shovels, Axes, Trace-chains, Churns, Scythes, Cradles, Knives, &c. &c. Orders from abroad will meet with prompt attention.

N. B. Agent for various Nurseries East and West.

AMERICAN AGRICULTURE.

BEING a condensed Encyclopædia of Northern and Southern Farming, embracing Soils, Manures, Draining, Irrigation, and all staple productions, as the grasses, grain, roots, and miscellaneous articles; cattle, the dairy, horses, sheep, mules, swine, and poultry; their treatment, food, diseases, &c., &c. Price \$1 retail. A liberal discount to the trade. For sale by

SAXTON & MILES, 295 Broadway,
A. B. ALLEN, 187 Water Street.

TO THE PUBLIC.

BY reference to the first page of this number it will be seen that Messrs. HARPER & BROTHERS have assumed the publication of the *American Agriculturist*, and in doing so the public are assured that it will be continued with increased vigor, and with a steady eye to its general improvement. They intend it as a pioneer to a series of works written expressly for the agricultural community; and in undertaking the publication of these, they are persuaded, that they are but serving the interests of the Farmer and Planter—the largest, the most worthy, and most important class of our great Republic.

The editorial department will remain unchanged, and the subscriber will, as heretofore, do all in his power to make the work useful, and entitle him to the continued regard and confidence of his readers.

We respectfully solicit the attention of our friends, and all those having dealings with Messrs. Harper & Brothers, to use their best endeavors to circulate this periodical. The terms are very liberal, and in aiding to diffuse a work of this highly useful character, they may be assured that they will not only be serving their own interests, but at the same time greatly benefit their fellow-citizens.

The subscription books of the *Agriculturist* will continue to be kept at the old office of publication, 205 Broadway, by CHARLES M. SAXTON, of the late firm of Saxton & Miles. Our former patrons will please forward their subscriptions to him as before, and address him on all matters relating thereto.

New York, February, 1st, 1847.

A. B. ALLEN.

NOTICE.

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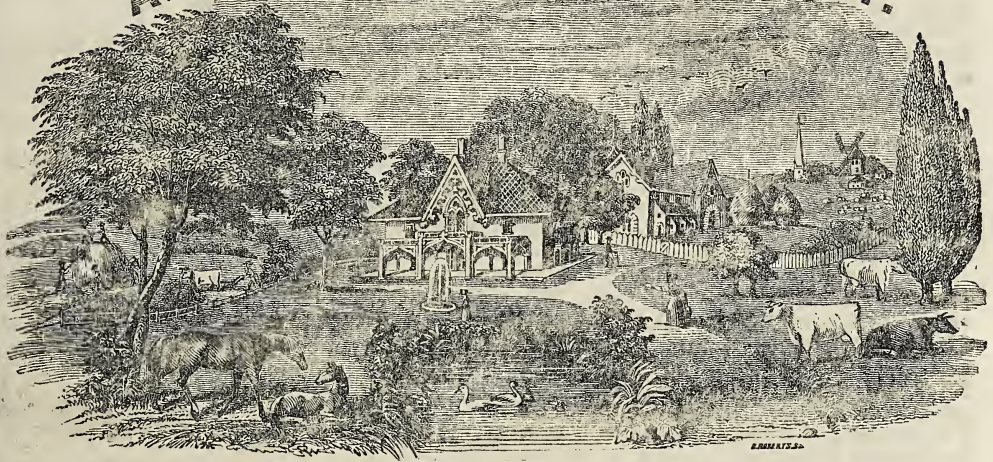
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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VI.

NEW YORK, MARCH, 1847.

NO. III.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

THE NEW VIGNETTE.

As few of our subscribers seem to have been satisfied with the new vignette that headed the February number, we have thrown it aside and substituted the old one, which we shall continue to use till we can be furnished with something in the place of it that will be generally popular. It is no easy task to design an appropriate vignette.

TO POST-MASTERS.

WE beg to express our acknowledgments to Post-Masters for the interest they have taken in disseminating this periodical. They will please to consider themselves as our duly appointed agents in their respective localities, and in obtaining subscriptions deduct the commission allowed by the terms (for which see the last page of each number), and forward the same with the address, distinctly written, of each subscriber. Please to recollect that all letters marked "P. O. Business," with the name of the Post-Master and office where mailed, go *free*. If any papers come erroneously directed, or lie dead, or if anything else at the Post-Office demands the attention of the publishers, they can be written to without taxing them with postage. As to stoppages, by a late decision in court it has been ruled, that merely returning a copy of "John Smith's" paper with "*stop this*" written on it, without post-mark, or other indication of locality, was not sufficient or legal notice; but a *written notice, with name, place, date, and reason*, must be sent to the publisher, and "franked," that it may be taken out by him.

In all cases Post-Masters are requested to remit the amount of subscriptions to C. M. Saxton, 205 Broadway, at the risk of the publishers. They particularly request that no Post-Office orders be sent, as it is more trouble to go through the form of collecting them than they are worth.

NEW YORK STATE AGRICULTURAL SOCIETY.

Agricultural Rooms, Feb. 11th, 1847.

PRESENT—George Vail, President; J. M. Sherwood, ex-President; Wm. Buel, Samuel Cheever, C. N. Bement, Vice-Presidents; A. McIntyre, Treasurer; B. P. Johnson, Secretary; T. J. Marvin, W. A. Beach, J. T. Blanchard, A. Stevens, Executive Committee; E. P. Prentice, Dr. A. Thompson, Wm. H. Sotham.

Mr. Prentice, from the committee on the premium list, reported that the committee had been unable to complete the list in time for this meeting. And the same was re-committed to the committee, to report to the Board at their next meeting—and the Secretary was added as a member of the committee.

A communication from E. M. Gale, M.D., on the cause of abortion in cows, was read and referred to the committee on preparations and transactions.

Communications from Hon. Benj. Enos, Madison County, and the President, on the adoption of rules for measuring corn crops, &c., were read and referred to the committee on premium list.

Statement of a crop of oats raised by Hamilton Morrison, was presented and read, and no premium awarded, as the rules required by the Society as to the measurement of land and of the crop, had not been observed by the applicant, nor any sample of his grain presented.

On motion of Mr. Stevens, the plan of show grounds at Auburn, was ordered to be engraved, under direction of Messrs. McIntyre, Tucker, and Stevens.

On motion of Mr. Johnson, the President, Mr. Sherwood, and Mr. Stevens were appointed a committee to prepare regulations for grain crops.

The Secretary was directed to return the thanks of the Society to P. L. Simmons, Esq., of London,

for his valuable communication to the Society on grasses, and forward to him the Transactions of the Society for 1844 and 1845.

On motion of Mr. Johnson, vols. 4 and 5 of the Society's Transactions were ordered to be furnished to the N. Y. Historical Society.

On motion of Mr. Stevens,

Resolved, That a set of the Transactions of the Society be furnished to the New York Agricultural Association.

Messrs. Johnson, Stevens, and Bement were appointed a committee to superintend the preparation and printing of the Transactions of the Society.

On motion of Mr. Stevens,

Resolved, That the Show and Fair of the Society be held at Saratoga Springs, on the 14th, 15th, and 16th of September, 1847, and that the first day be devoted exclusively to the examinations by the committees, and the second and third days to the exhibition—on condition that the persons who shall have presented a written guaranty to the board, furnish a bond executed by themselves or others in exchange for the same at the next meeting of the board—conditioned, that this Society shall not be charged with any of the expenses of the Fair at that place.

Messrs. Howard, Bement, and Johnson were appointed a committee to prepare subjects for the weekly agricultural meetings.

Resolved, That the meeting adjourn to Thursday, the 18th instant, at 11 o'clock, A. M.

The premium list of the last year is left with the Secretary at the Society's rooms in the old State Hall, where premiums will be paid in the absence of the Treasurer.

Officers of county societies who have not forwarded their reports, are requested to do so immediately to the Secretary.

Publishers of papers, and others who have business with the Society, are desired to direct their papers and letters to the Secretary, at the Agricultural Rooms, Albany.

B. P. JOHNSON,
Secretary.

PROFITABLE CULTURE OF CORN.

THE following account of a crop of corn, raised at Oyster Bay, Long Island, was handed us for publication by a friend, who personally conducted the experiment and set down all the items. We have so much confidence in its accuracy, that we are ready to vouch for it throughout. The statement was given to us early in January, at which time corn was worth the price at which it is credited, viz. 75 cents per bushel. It is now worth \$1.00 per bushel, which would make the profit of the crop \$133.25 more than it is put down at. But at the lowest average price at which it has ruled for the few years past, say 50 cents per bushel, it would still leave a good profit, and goes to show that it is one of the most reliable products of the farm.

The British Isles have now acquired a taste for Indian corn and meal, and henceforth, under any circumstances, whether of famine or plenty, they will continue large consumers, so that the farmers of America need no longer be anxious in regard to their surplus. Large quantities of corn and cob meal also are baked into cakes or shipped raw for feed-

ing. Upon careful experiments in England, few substances are found more economical for fattening purposes.

Account of Corn Crop for 1846, S.E. Lot, Area 10 1-5 Acres.

1846.	DR.	
APRIL 14,	oxen 1 day's plowing,	- \$1.50
15,	do - - - - -	- 1.50
16,	do - - - - -	- 1.50
17,	do - - - - -	- 1.50
18,	do - - - - -	- 1.50
18,	1 man, 1 day mixing guano,	- 75
20,	oxen 1-2 day's plowing,	- 75
21,	do - - - - -	- 75
"	1 man 1-2 day mixing guano,	- 38
22,	oxen 1-2 day's plowing,	- 75
23,	do 1 day,	- 1.50
24,	do 1-2 day,	- 75
"	1 man 1-2 day mixing guano,	- 38
25,	oxen 3-4 day's plowing,	- 1.12
27,	do 1 day's do	- 1.50
28,	do 1-2 day's plowing and har-	- 75
	rowing,	- 75
29,	do 1-2 day's harrowing,	- 75
30,	do 1 day's harrowing,	- 1.50
MAY 1,	1 team, 1 day's laying out,	- 1.50
4,	4 1-2 days' work planting,	- 3.37
5,	4 1-2 days' do - - -	- 3.37
6,	1 1-2 days' do - - -	- 1.12
7,	1 1-2 days' do - - -	- 1.12
8,	2 days' do - - - - -	- 1.50
"	65 lbs. guano plowed in,	- 1.95
"	1400 lb. do in the hills,	- 42.00
25,	4 days' work planting over,	- 3.00
26,	2 days' work do - - -	- 1.50
JUNE 9,	2 days' work with cultivator,	- 2.00
10,	do - - - - -	- 2.00
11,	do - - - - -	- 2.00
"	1 day's work hoeing - -	- 75
12	1 day's work, do - - -	- 75
13, 15 and 16,	9 1-2 days' work hoeing,	7.11
17,	2 1-2 days' work hoeing,	- 1.87
18,	2 days' do - - - - -	- 1.50
29 and 30,	4 1-2 days' work putting on guano, - - - - -	- 3.37
JULY 13,	1 day with cultivator,	- 1.00
14,	1 day do - - - - -	- 1.00
24 and 29,	2 1-2 days' putting on guano,	2.25
"	1031 lb. of guano,	- 18.03
SEPT. 22d to 28,	10 1-2 days' work topping and stacking, - - -	- 8.25
OCT. 2d,	1 day's work in stacks,	- 75
22 to Nov. 19,	32 days' work husking, cutting up stalks, &c., and putting away the corn,	- 24.00
"	Carting 15 loads of stalks,	- 5.50
"	Other labor—paid,	- 2.75
		\$165.44

CR.

By 5 loads of top stalks,	-	\$20.00
" 10 1-2 do butt do -	-	28.75
" 533 bushels shelled corn, at 75c.	-	399.75

\$448.50

Profit on 10 1-5th acres of corn, - \$283.06

REMEDY FOR THE BORER IN PEACH-TREES.—We call the attention of our readers to the remarks of Drs. Stevens and Gardner, on page 87, respecting the application of coal-tar to peach-trees.

CHITTENDEN COUNTY (Vt.) AGRICULTURAL SOCIETY.

At the Annual Meeting of this Society, lately held at Burlington, the committee on field crops reported that they had examined all the specimens, and the mode of cultivation exhibited, and they regretted to state that so few were shown; but the quality, in most cases, made full amends for want of quantity.

The first premium on winter wheat was awarded to Levi Comstock, of Shelburne; the 2d do. to John N. Pomeroy, of Burlington; 1st premium on spring wheat, to Chester Blin, of Shelburne; and the 2d do. to Chauncey Goodrich, of Burlington.

The winter wheat was of the white flint variety. Mr. Comstock's was raised on a *slaty marl* soil, and produced the great quantity of 41 bushels to the acre. Mr. Pomeroy's was raised on *pine plain* land, and his field averaged 21 bushels to the acre. Both specimens were fully equal to any raised in the wheat district of Western New York or Maryland. Mr. Blin's spring wheat was grown on a soil of a gravelly loam, planted last year with corn, highly manured; produced 31 bushels to the acre, of the bald red chaff variety. Mr. Goodrich's was grown on a dry gravelly soil, plowed for the purpose of seeding for pasture land; slightly manured and planted with potatoes in 1845; plowed and harrowed; seed, 1 bushel and 12 quarts, plowed in, and one bushel of plaster and six bushels of slacked lime sown on it, product 22 bushels on one acre.

On Indian corn, they awarded the 1st premium to John G. Goodhue, Jericho; 2d do., Col. Smith, St. George; 3d do., Chester Blin, Shelburne; 4th do., Warren Ford, Essex. The product was 94½, 93, 85½, and 80 bushels to the acre, estimating one bushel of shelled corn for two bushels of ears.

Mr. Goodhue's corn was grown on green sward, long manure plowed in, and rotted manure spread on the surface, and an equal mixture of plaster, ashes, and lime, at the rate of one spoonful (how large a spoon?) to each hill. Mr. Ford's was grown on green sward, and manure plowed in.

On Oats the 1st premium was awarded to Levi Comstock, of Shelburne; 2d do., to N. Stearns, of Williston; 67 and 64 bushels to the acre. On Beans, 1st premium to Wm. Bowman, of Westford; 2d do., to Geo. Saxton, Shelburne; 15½ and 15 bushels to ½ acre. On Potatoes, 1st premium to Chester Blin; 2d do., to Nathan Stearns; 1st, 217 bushels long red, 2d 131 bushels King potatoes on ½ acre. On Carrots, 1st premium to Tristram Conner, of Burlington; 2d do. to Usal Pierson, of Shelburne; 1st, 300½ bushels, long orange, 2d, 215 bushels Altringham, on ¼ acre.

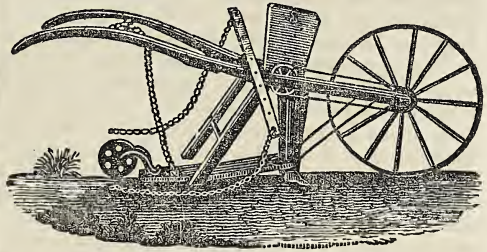
CULTURE OF WHITE MUSTARD.

When in England, we often noticed the white mustard, *Sinapis alba*, occupying the poor, thin soils of the country, and were informed it would grow quite well where no other crop would flourish; that it answered an excellent purpose to turn in green for manure; and not unfrequently it was fed off with sheep to considerable advantage, and thus formed a good preparation for the turnip crop. Its seed is also valuable as a condiment. We are persuaded that white mustard would do well on the poor, sandy soils of Long Island, New Jersey, and

other parts of the United States. We will now give the method of culture as practised in England.

Prepare the land by plowing, the same as for any other crop; but see that it is harrowed deep and fine. Sow in drills about six inches apart, or broadcast, as soon as danger from frost is past, which in this latitude is usually the last of April or forepart of May. From 5 to 8 quarts of seed per acre is sufficient. Harrow or bush it in, and then roll the surface with a tolerably heavy roller, especially if the soil be light or at all shifty. It grows from 2½ to 3 feet high. It will be fit to be fed off by sheep in 5 to 7 weeks after sowing, or just before coming into blossom. It must be fed sparingly to them at first, or it might do injury. If to be plowed in for manure, let it stand till it is in full bloom, and then turn it under with a wide pointed two-horse plow.

SEED SOWERS.



SEED SOWERS.—FIG. 14.

SEED SOWERS are of many kinds, and prices vary accordingly, from \$3 to \$15. The cheaper kinds we consider as entirely *worthless* to sow any but the *smallest* seeds, such as onions and turnips. We have recently got up an improved Seed Sower, something like the above cut. The person using it takes it by the handles, the same as he would a wheelbarrow, and trundles it rapidly along, sowing from two to five acres per day, according to the distance of the rows apart. These implements save half the seed or more over hand-sowing, thus making a double saving. The seed is put into a hopper, and falls through a funnel into a drill made by the share, and is then covered by the roller. It can be set to plant at different depths. It is useless to attempt to use it in a stiff clay soil; the ground must be fine and well pulverized to ensure its working well. In the Improved Seed Sower, there are two cylinders; one is used for sowing onions, turnips, carrots, parsnips, millet, and other light grain. This is then taken out and another cylinder is inserted for sowing beets, peas, beans, corn, &c. The price with single cylinder is \$12.00. With extra cylinder \$15.00. It is very strong and complete, and we do not hesitate to say the best now in use.

ARABIAN MODE OF TREATING HORSES.—However poor, an Arab is never without a good horse; and he will often take pleasure in looking at it for an hour together. The horse is washed, but never curried. As soon as a colt is a year old his mane and tail are shaved, to make the hair grow again as thickly as possible.

ARE you insured against fire? If not, no time should be lost in attending to it

THE HORSE.—No. 3.

THE ANATOMY OF THE MUSCLES.

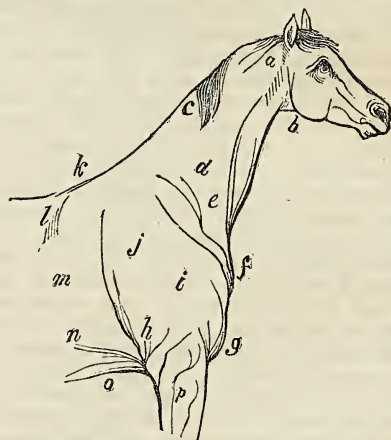
THE bones of the whole body constitute a framework to which the numerous muscles (which are concerned in, and are the means of the various motions of the animal) are attached. The bones are not smooth, but have an uneven surface, and present depressions and elevations; these elevations are like nipples, and are called nipple-shaped processes, or tubercles. Into these depressions and on to these tubercles, the muscles are attached. The bones are levers, and the power of their motion is the muscles.

In our discussion we propose to direct attention mainly to those bones and muscles only which are concerned chiefly in the travelling, carrying, and drawing motions of the horse. These bones and muscles are mostly those of the body and legs, and consequently the body and legs, in their bony and muscular anatomy, will be treated of. We content ourselves with an enumeration of the bones of the head, as the head is only in a small way employed in motion or draft. The power it has over either arises from its elevation or depression. When the horse increases his pace he lowers his head, if it be free; when he is called on for greater exertion in draft, he also lowers his head. Without this depression of the head, and that to the level of the body, the horse cannot reach the height of his speed, nor the utmost of his power of draft. In ordinary motion or draft, the head is not so low as the level of the body; it is only in his higher and more powerful exertion, in either speed or draft, that the horse brings his head to the level. It is then the position of the head, and not its power, which is concerned in motion or draft. Consequently, in animal mechanics, it is relatively of small consequence. The head is not even held up in its natural position by the muscle, but by a strong ligament or cord called the pack-wax, which is attached to the head at one end, and on the withers at the other, and thence into the muscles of the back. When, however, the head is to be depressed, the muscles of the neck and shoulder are called on to do it. Thus the bones and muscles of the neck, as well from their shape as from their size, are of importance in the power of the horse for motion.

Muscles of the Neck.—We shall first consider the muscles of the neck. They lie chiefly in the lower part of the neck, and end in tendons at or near the head. Those concerned in the raising and lowering of the head and turning it in various directions, make a complicated system. Two of the most important of them are the *splint-like* muscle and the *large* complicated muscle. The splint-like muscle constitutes the bulk of the neck on its upper side, *c*, fig. 15, and is attached to all the bones of the neck except the upper one, called the *atlas*, nearest the head. From this muscle a tendon goes to and attaches itself to the atlas and the bones of the temples. Its office is to elevate the head and neck, and for this it is very powerful, as it must needs be; upon it depends the beauty of the neck. As it is more or less developed, so will the neck be more or less arched, but it should be light above, and large below and at the junction of the neck with the shoulder. From it arises the thickness and muscularity of the neck, and if full at the lower part and light at the upper part of the neck, the neck itself, when joined well to the head,

will be perfect. Clumsy necks arise from too much cellular substance or fat, and not from this muscle, as also do lofty crests. Mares and geldings have rarely clumsy necks or lofty crests.

The large complicated muscle is the largest and most powerful in the neck. It arises from the five lower bones of the neck, and makes the bulk of the lower part of the neck, *d, e*, fig. 15; at its upper part, as it nears the head, it lessens its bulk and unites in part with the same tendon as the splint-like muscle, but is principally joined to the bone of the back part of the head. It assists to raise the head and neck, and it is particularly concerned in raising and thrusting forward the nose. When too powerful, it makes the nose *stick out*, and deforms the horse. The martingale is used to counteract the force of this muscle. When this muscle is very large and the splint-like one quite small, the horse will be ewe-necked, hollowed (or at least straight) above and projecting below. In such a neck the nose protrudes and can hardly be got down.



THE MUSCLES OF THE NECK.—FIG. 15.

The *small* complicated muscle, the *straight*, and the *oblique* muscles of the upper part of the neck, attached mainly to the two upper bones of the neck, *a*, fig. 15, are also employed in raising the head.

One of the muscles used to lower the head is attached to the breast bone, and lies next to the skin; it proceeds up the neck, and near the head changes into a tendon, and is inserted into the lower jaw near its angle, *b*, fig. 15. It is used to bend the head towards the chest. Another muscle concerned in lowering the neck springs from the back of the head and the first or four upper bones of the neck, and the pack-wax proceeds downward, mixes with the muscles of the shoulder, and attaches itself to the lower shoulder bone (*m*, in fig. 11, p. 48); it also assists in raising the shoulder.

The muscles of the neck are all double (in pairs), one on each side of the neck. To raise or depress the head they must act together. To turn the head and neck to one side, one only must act, on the side to which the head and neck are to be turned; if an elevating muscle, then they will be raised and turned at the same time; if a depressing muscle, then lowered and turned. Thus is provision made for every kind of motion of the head and neck.

Muscles of the Breast.—The muscles of the breast are very important. They are largely concerned in the expansion of the chest; and are the power by which the arm in rapid motion is confined to the side, and thus keep the leg in a straight line before the horse. The chief of these is the pair of *transverse muscles* of the breast. They form two full points in the front of the breast; they spring from the upper and front part of the breast, consisting of the four first bones of the breast, and are attached to the lower end of the lower bone of the shoulder, extend backward between the legs, pass across the inside of the arm, and reach from the elbow almost to the knee. These muscles act to place the fore legs in that position which will allow them to receive the weight of the body in the easiest manner, and with the least shock.

The *great* and *small muscles* of the breast lie above and behind the transverse muscles; they extend from the breast bone to the arm of the shoulder; their office is to draw back the point of the shoulder and bring it into the upright position. There is still another muscle which goes from the breast bone to the shoulder blade. It assists in the same office as the *great* and *small* breast muscles. It is less in size than either of the others. A horse not well developed in the muscles of the breast will be deficient in power. He will not have the power to expand perfectly the chest, so that the lungs must suffer when taxed by violent motion to increased action; and this even if the lungs be large enough. Nor will the horse be able to use his fore legs to full advantage. These breast muscles must be large to allow the horse to avail himself of the full power of the muscles which are used to propel forward his carcass. The progressive muscles have enough work of their own to do, and will not long last if called on to do that of other parts. These breast muscles have more to do in supporting the weight of the body and giving direction to motion than in creating motion; if they be not competent to their office, other muscles are called upon to overwork themselves to supply the deficiency, viz. the muscles of the shoulder and haunch in motion, and the muscles between the body and shoulders and the muscles of the belly (abdominal muscles) in breathing. Then the breast muscles should be large to produce and preserve a proper balance both in action and breathing.

CHARCOAL, CROWS, AND BLACK-BIRDS.

POUNDED charcoal, or the refuse of the heap, should be thickly strewed over every place where filth is allowed to accumulate. It absorbs the bad smell, and makes an excellent manure of what otherwise would not only be useless but offensive. It also prevents the larvæ of insects from becoming flies or moths. Pigs like to eat charcoal, and are thought to fatten on it; and in the course of the summer months, I frequently have a bushel or so at a time thrown over the pen. It makes the manure so much more valuable that I find it worth while to buy it for the purpose; and in so doing the pens are never offensive.

Is it true that black-birds and crows do more harm than good? and is it necessary to poison or shoot the pretty creatures, in order to secure our crops of corn from destruction? Doctors, or I

should say farmers, differ so much about it, that as I am neither one nor the other, I feel quite incompetent to give an opinion on so grave a question, or offering myself as a judge between the contending parties; yet I love the whole race of birds, and have heard some good arguments advanced in their favor, and should like to hear more in support of my favorites. Rookeries are protected by law, in England, yet I guess they destroy cut-worms and corn about as effectually as crows or black-birds do for us. What light can Reviewer throw on this *very dark subject*?

Eutawah.

E. S.

THE OX CHARLES.

THIS fine ox (or steer as the butchers call him and every bullock under seven years of age), was bred by Edward Leroy, at Avon, Livingston county, New York, roan in color, and was calved in May, 1841. He was got by Mr. Leroy's imported Short Horn bull Windle—(5567) vol. 4th of the Herd Book; his dam by the Short Horn bull Avon (owned by Mr. Leroy and bred by John Hare Powell, of Philadelphia); his grandam was an imported Dutch cow.

In 1825, the late Hermon Leroy (father of Edward Leroy), of the city of New York, imported from Holland twelve cows and a bull of the black and white Dutch cattle. They were placed on the farm of Edward Leroy, at Avon, and bred under his supervision. The original stock were all great milkers, but bad handlers, and poor thrivers as beef cattle. Possessing great constitutional stamina, they offered a capital original for improvement. Mr. Leroy's object was to improve the carcass and preserve the milking quality. To effect this he resorted to the Short Horn bull. He procured, at different periods, two from J. H. Powell, of known milking families, and bred the imported cows and their descendants to them. In 1835 he imported from England the bull Windle, bred by Mr. Pilkington, of Windle Hall, Lancashire, got by Hopewell, dam Moss Rose (bred by Mr. Stephenson, at Stockton-on-Tees, and of his choice blood of the Princess tribe) got by Waterloo—(2816) 3d vol. Herd Book. The daughters of his two first Short Horn bulls were bred to Windle. The greatest care was taken to preserve in its original fullness the milking quality, and the result has been a great feeding quality added to great capacity for milk.

Of this strain was the ox Charles. He was sold when a calf to Mr. Olyphant of Mount Morris, Livingston Co. by whom he was raised and fed. From a calf he showed at all times a great feeding quality, and at five years had attained a live weight of 2700 lbs. He was shown in September, 1846, at the show of the Agricultural Society of the State of New York, at Auburn, and won the first prize as the best fat animal shown. He was brought to New York and exhibited at the show of the American Institute, in October, 1846, and won the first prize as the best shown. He was then sold to Thomas H. Devoe, of the Jefferson Market, Sixth Avenue, New York, and was slaughtered and exhibited at that market on Christmas day. Finer beef was never seen or eaten. The whole carcass was evenly covered with fat, and the beef was beautifully marbled, cutting up in the most spark-

ling manner. The carcase was dressed in the most tasty and capital style by Mr. Devoe, and the dead weight was 1664 pounds beef; 255 pounds rough tallow; and 116 pounds of hide; total 2035 pounds.

Alive, this fine ox indicated all the good qualities that his dead carcase showed. His handling was superb, and his beef was beautifully mixed, fat and lean, and was very juicy. We can speak from authority, for we not only saw but ate of his beef. Finer we never saw, finer we never tasted. It is a credit to have bred, a credit to have fed, and a credit to have slaughtered such an ox; and a luxury it was to eat of his beef.

NEW YORK FARMERS' CLUB.

The last meetings of this Club have been unusually well attended, and if we rightly judge, this institution is gaining popularity and favor in all parts of the country. Among the subjects for discussion, since our last report, was a continuation of "Manures and the means of restoring fertility to exhausted lands."

Salt Grass and Muck as Manure.—Mr. Hall of Perth Amboy inquired the best mode of making manure from the grass and mud of marshes overflowed by the sea. Dr. Underhill replied that the method usually practised was, to dig up the mud in the fall, and allow it to freeze during the winter, and then to employ it as a top-dressing on the land in the spring; but if wanted for more immediate use, it could be converted into a good manure in a month, by mixing two loads of newly-burnt shell-lime to fifteen loads of the mud.

Lime as a Fertilizer.—A somewhat animated discussion took place by Drs. Field and Underhill, and Messrs. Judge Van Wyck, R. L. Pell, Col. Clark, and J. Orville Taylor, of Saratoga county, on the use and application of lime as a manure.

Mr. Van Wyck strongly advocated the use of lime, when judiciously applied; but did not regard it as a fertilizer in itself, but an agent which collects carbon and moisture, and then imparts them to the roots and leaves of plants. Lime, he contended, is excellent to dissolve those manures which without it would be insoluble; and when applied to soils chiefly composed of clay, it renders them friable and mellow. He did not consider it, however, so suitable for dry, sandy soils, nor could it be profitably used on those exhausted by tillage. On the sandy plains of Long Island and New Jersey, if marl or putrescent manures can be used, he said lime may be judiciously managed; but if applied merely to sand alone, it will not only become converted into mortar, in time, but a hard cement. He cited an instance where lime had been employed with advantage, at the rate of 400 bushels per acre.

A difference of opinion seemed to prevail whether caustic or unslacked lime can be used without injury or loss in making composts, or in being applied directly to the soil in a course of tillage. (a)

(a) *Lime*, according to the best authorities, is considered the most valuable of the fossil manures, and for cold mossy soils it is indispensable. It may be obtained in most situations, and should be covered from wet, and not slacked till laid upon the land. It must then be regularly spread, and immediately harrowed in with the seed, but not too deeply, for

lime ought to be kept near the surface. Lime is also extremely useful as a compost, and as a top-dressing for grass-land; but it is comparatively useless, if laid on wet undrained land. The quantity used must depend upon the nature of the soil for whilst 80 bushels per acre are sufficient for sandy soils, loams will require 100, and clay 150 bushels per acre.

Quick-lime decomposes any hard vegetable substance in the soil, and converts it into food for the cultivated plants; and hence its value when applied to the mossy land. It improves a soil destitute of calcareous matter. It separates the particles of stiff soils, making them more friable, and acts upon light soils by making them more firm and adhesive, thus rendering both soils better adapted for the growth of plants. Soils containing pyrites (sulphuret of iron) are greatly benefited by the addition of lime, as the pyrites are decomposed, forming gypsum, while the iron remains inert.

The benefit to be derived from lime greatly depends, however, upon the nature and the state of the soil. Strong lands are much improved for two or three crops by this stimulant; but frequent repetitions will not have the same good effect, unless the land in the interim has been placed under a clover or other green crop, by which vegetable matter will be introduced for the lime to act upon.

The deficiency of vegetable matter in light soils, is one chief reason why lime does not always act upon them beneficially; and it should therefore be used very sparingly on these soils, with an interval of six or seven years between each liming. Indeed, it is often as necessary to change the mode of manuring land, as it is to change the crops to be cultivated; and it is from not sufficiently attending to this, that arable farms have become deteriorated, whilst the farmer fancied that he was doing great justice to the land by liming every third or fourth year. But let the introduction of a green crop be tried in such a case, and the farmer will afterwards find that his grain crops increase, and his land is in better heart.

On the first application of lime to land abounding in vegetable matter, it should be laid on in a partially slacked state. Its effects when so applied will continue, so long as it finds vegetable matter to act upon; but when lime is applied to land constantly in tillage, it has little or no vegetable matter to act upon, and therefore can have comparatively but little effect. On the cold peaty lands in Derbyshire, England, they lay on enormous dressings of lime in the spring, which by the end of summer completely decompose the coarse grasses and brings up an excellent herbage; but lime in such quantity would destroy vegetation, if applied on thin soils, or worn-out fallows.

In the application of lime to cold and newly-reclaimed land, which is generally surcharged with coarse vegetable matter, it should be a rule always to give abundance, and in a newly-slacked condition, in order that the lime may have its full effect. If slacked a considerable time before it is applied, it does not act so powerfully in reducing the noxious vegetable matter, or neutralizing the acids, as when applied in a hot state. On very thin moorish soils, however, lime by itself will not always improve the herbage. These soils require a nourishing, as

well as a stimulating application; and a top-dressing of earth and lime or even of good earth alone, will be found to have nearly the same beneficial effect that lime always produces on a stronger and deeper soil.

Some persons think, from witnessing its first effects, that they can always have recourse to lime with the same success; but in this they will assuredly be disappointed; once in five, six, or seven years, according to the nature of the land, is as often as lime can be applied with advantage.

Experience proves, that if lime be frequently used, it must be applied as manure, and not singly as a stimulant; and to this end, it must be compounded with earth, clay, and other matter, to which it communicates its stimulating qualities, whilst its fertilizing effects are thereby augmented. In this state it will act powerfully as a manure, and be a valuable auxiliary in the hands of the farmer.

Most varieties of subsoil strata make good compounds with lime. Sand and lime, with peat or turf, if it can be obtained, should be mixed for a clay soil; and subsoil clay and lime, for sands, gravels, loams, and peaty lands. No farmer need complain of want of materials to make fertilizing compounds, since every sort of soil may be used for this purpose; and not only is immediate fertility produced thereby, but there are few districts in the country, however barren, that may not be improved, or brought into a fertile state, by dressing with a well-proportioned mixture of earth, clay, sand, and lime. Care should be taken, however, to proportion the quantity of lime according as the land is light or heavy, cold or warm. Light soils have been hurt by too abundant applications of lime; and while one part of lime to from six to ten parts of earth may do for light soils, one part of lime to two, three, or more parts of earth, will be required for heavy soils.

The application of lime alone to land long under tillage, is often found not to be beneficial; but if the same quantity of lime had been applied in a compound state, with sand, turf, earth, clay, or vegetable mould, good effects would have resulted. On deep loams, lime may be applied in a caustic state, more frequently than to most other soils; but the testimony of experience is in favor of its being used in a compound state.

The most valuable variety of lime for agricultural purposes is that obtained by burning oyster-shells, and allowing it to remain exposed to the air a few hours in order to allow it to slack. Quarry lime is not so good on account of the magnesia which it often contains, and from its small quantity or total want of phosphoric acid. It should be used soon after burning, when, if it occurs in a powdered state, it may be air-slacked in the same manner as the oyster-shell lime; but if it occurs in stony lumps it must be slacked by sprinkling water upon it, and as soon as the particles fall asunder it should be immediately used.

RAT CHARMERS.—It is said there are men in London who possess the art of enticing rats from their holes, and constraining them, in broad day, to enter into rat-traps. The charm consists in some of the straw, placed in the trap, saturated with the oil of anise, and of cummin.

USEFUL TABLE FOR APPLYING LIME, CHARCOAL, &c.

PERSONS unaccustomed to the application of lime or charcoal to land, by sowing or spreading them upon the surface, are often at a loss to know how thick a coat to put on in order to dispose of a certain number of bushels to the acre. We therefore show at a glance, in the following table, the depth, to the nearest 1000th part of an inch, that a given number of bushels will cover an acre of ground, assuming the bushel to contain 2150.42 cubic inches; also the number of bushels necessary to cover an acre of land to a required depth:—

Bushels per Acre.	Depth. Inch. Decimals.	Depth. Inch. Tenths.	Quantity per acre. Bush. Dec.
20	= 0.007	1.0	= 2916.937
30	= 0.010	0.9	= 2625.243
40	= 0.014	0.8	= 2333.550
50	= 0.017	0.7	= 2041.856
60	= 0.021	0.6	= 1750.162
70	= 0.024	0.5	= 1458.469
80	= 0.027	0.4	= 1166.775
90	= 0.031	0.3	= 875.081
100	= 0.034	0.2	= 583.387
200	= 0.069	0.1	= 291.694
300	= 0.103	0.1	= 145.847

RENOVATION OF OLD GRASS-LAND.

Will you inform me through your useful paper what quantity of bone-dust should be applied to the acre, the land having been mowed for many years? The soil consists of a yellow loam, and is covered with a stiff, heavy sward.

STEPHEN R. GRAY.

Instead of employing bone-dust the first year, we would recommend a top-dressing of 30 to 50 or even 100 bushels of partially slacked lime per acre, and if this could be incorporated with 20 or 30 loads of rich earth or muck, and the whole spread together, it would be still better. This will cause the coarse grass and weeds to disappear, and a rich sward of the sweeter herbage to rise spontaneously. The second or third year 10 to 15 bushels of bone-dust may be sown broad-cast to an acre, the stimulating and beneficial effects of which will be visible for several years. For further remarks on the application of lime to grass-lands, see our remarks on the preceding page.

TO REMOVE INCRUSTATIONS FROM BOILERS.—One of the greatest impediments met with in employing hot water as a heating medium, or for the purpose of generating steam, is its tendency to incrust the interior of the apparatus with carbonate of lime. In order to remove this difficulty, it is only necessary to add one ounce of sal-ammoniac (muriate of ammonia) to every 90 gallons of water with which the apparatus is filled. The acid, which holds in solution the lime, unites with the ammonia, while the carbonic acid of the carbonate of ammonia combines and falls down with the lime; but, upon the water being heated, the precipitated carbonate of lime combines with the salt of ammonia, is redissolved, and the carbonate of ammonia is formed and escapes with the vapors of the boiling water. Gardeners, cooks, and engineers, who are obliged to employ water charged with lime or salt, may learn a lesson from this, if they wish to keep their hot water apparatus in working order.

ANALYSIS OF THE OAT.—No 2.

(B)—OF THE QUALITY OF THE ASH FROM THE SEVERAL PARTS BEFORE MENTIONED.—This series of analyses by Mr. Fromberg has already involved a very great amount of labor, and is not yet by any means finished, extending only over 7 weeks of the 14, in which the determinations of the quantity of

ash were made. They extend to the 16th of July; and, so far as they go, present a complete view of the curious and interesting changes which take place during the development of the various parts of the plant. As before, I will place the leaf first.

TABLE 6.

Composition of Ash from the Leaf of unripe Oats at different periods of growth.—Perhaps the most striking feature in this table is the gradual disappearance of the chloride of sodium (common salt);

Day of the Month received.	June 4.	June 11.	June 18.	June 25.	July 2.	July 9.	July 16.
Potash and Soda,	24.60	23.51	26.21	28.10	18.78	16.09	18.35
Chloride of Sodium,	16.34	13.54	11.30	7.56	7.92	4.09	0.30
Lime, - -	8.44	7.24	7.33	6.74	6.91	5.93	5.13
Magnesia, - -	5.33	3.11	3.47	3.06	2.39	2.35	1.63
Oxide of Iron, -	0.61	0.52	0.72	0.99	0.40	0.34	0.55
Sulphuric Acid, -	11.74	12.85	10.59	7.88	9.50	6.45	13.05
Phosphoric Acid,	16.16	10.57	10.12	8.76	6.92	6.44	2.91
Silica, - -	16.58	28.54	30.31	36.50	47.62	58.28	58.22
	99.80	99.88	100.05	99.59	100.14	99.97	100.14

from 16 per cent., in 7 weeks it decreased to less than a third of one per cent. A large quantity of soda yet remains, nearly all in the state of sulphate, no doubt. The phosphoric acid, too, disappears in a great degree. There were at first probably phosphates of potash and soda, but these must have

left the leaf to supply the grain, and on the 16th July the small quantity of phosphoric acid left was nearly all in combination with lime, magnesia, and iron. The oxide of iron seems to have fluctuated in its proportions less than any of the other substances.

TABLE 7.

Of the Composition of Ash from the Stalks of the Unripe Plant.—The decrease in the quantity of chloride of sodium is here also very remarkable, from 32½ to 4½ per cent. The phosphoric acid continued without much variation until the 25th June,

Day of the Month received.	June 4.	June 11.	June 18.	June 25.	July 2.	July 9.	July 16.
Potash and Soda, -	24.94	21.45	26.49	28.86	36.26	30.10	42.43
Chloride of Sodium, -	32.66	34.65	24.94	24.57	11.62	17.82	4.46
Lime, - -	2.40	4.22	3.74	2.42	2.64	1.60	4.12
Magnesia, - -	0.88	3.20	2.20	2.58	1.17	2.27	1.47
Oxide of Iron, - -	0.39	0.30	0.40	0.58	0.88	0.68	0.62
Sulphuric Acid, - -	6.15	7.82	8.51	4.87	7.98	9.09	7.84
Phosphoric Acid, -	16.15	13.96	12.55	7.81	2.21	5.57	6.31
Silica, - -	16.29	14.32	20.41	28.08	36.64	32.39	34.85
	99.86	99.92	99.24	99.77	99.40	99.52	100.33

when the oat itself began to form; by the 2d of July the oats had shot up from the stalk and become visible; in that week a marked and sudden decrease took place in the phosphoric acid. In the two succeeding weeks it began again to increase. No very great changes seem to have taken place in the other constituents, excepting the gradual increase of silica. The composition of the stalk on

the 16th of July differs very greatly from that of a mature stalk, as will afterwards be seen. It was then still green and vigorous, growing rapidly, and serving as a canal for the conveyance of a great portion of their food to the other parts of the plant. The inorganic ingredients, therefore, might be expected to vary, as we see them, with the fluctuations of temperature more or less favorable to vegetable growth.

TABLE 8.

Composition of Ash from the whole Oat, at different periods of its growth.—During these three weeks the oat attained nearly its full length, but was yet quite green, and the grain had scarcely begun to form in the interior of the husk. The above table, therefore, only enables us to compare the earliest part of its growth with the latest as afterwards given. The diminution of chlorine is, however, to be noticed as very great in the short space of three weeks. I think the large quantity of sulphuric acid present at this time would have diminished, as I have seldom found so much in the ash of the ripe oat.

Day of the Month received.	July 2.	July 9.	July 16.
Potash and Soda, -	32.92	31.31	31.37
Chloride of Sodium,	10.37	8.10	0.61
Lime, - -	2.70	5.40	6.76
Magnesia, - -	3.44	4.52	2.94
Oxide of Iron, - -	0.39	0.21	0.35
Sulphuric Acid, -	10.35	12.78	16.42
Phosphoric Acid, -	14.02	20.09	15.19
Silica, - -	24.40	17.05	26.05
	98.59	99.46	99.69

Comparative View of the Composition of the Ash from the Leaf, Stalk, Oat, Knots, and Chaff, on the 16th of July.—[See Table 9.]—On the 16th of July the plant was in the midst of its most rapid growth, and just half-way between the time when

it appeared above ground in June, and when it was cut on the 3d of September. In the table on the following page will be found a comparison of the ash from these parts of the plant when fully matured.

Organic Constituents

of the Unripe Plant.—In connexion with the first chapter of my subject, I have hitherto said nothing of the organic constituents of the unripe plant. Mr. Fromberg has determined the nitrogen in the unripe oat at six periods of its growth, and also when it had become fully ripe. The adjoining table [Table 10] gives his results.

TABLE 9.

	Leaf.	Stalk.	Knots.	Chaff.	Oat.
Potash and Soda,	18.35	42.43	39.21	15.39	31.37
Chloride of Sodium,	0.30	4.46	0.60	2.01	0.61
Lime, - - -	5.13	4.12	4.75	4.58	6.76
Magnesia, - -	1.63	1.47	4.51	3.10	2.94
Oxide of Iron, -	0.55	0.62	1.02	1.50	0.35
Sulphuric Acid, -	13.05	7.84	27.94	9.90	16.42
Phosphoric Acid, -	2.91	6.31	9.03	7.26	15.19
Silica, - - -	68.22	34.85	13.23	56.38	26.05
	100.14	100.33	100.29	100.12	99.69

TABLE 10.

Day of the Month received.	July 16.	July 30.	Aug. 13.	Aug. 20.	Aug. 27.	Sept. 3.	Quite ripe.
Per centage of Nitrogen in Undried Oat,	0.51	0.51	0.62	0.66	0.97	1.52	1.87
Do. do. in Dried Oat,	1.71	1.35	1.38	1.31	1.79	2.20	2.18
Do. do. of Protein Compounds in Undried Oat,	3.24	3.24	3.90	4.15	6.10	9.58	11.80
Do. do. in Dried Oat,	10.75	8.50	8.69	8.25	11.26	13.84	13.72

The steady increase of nitrogen from the 30th of July is very striking. Had time permitted, it would have been of much interest to determine the other organic constituents, both proximate and ultimate. This tempting field we have been obliged to leave for future exploration. I shall next pass on to that part of

the investigation upon which I have principally been myself engaged.

JOHN P. NORTON.

TRANSPLANTING TREES.

HAVING noticed in the December number some interrogatories of an inquirer on this subject, it occurred to me that some general remarks on a topic in which every occupant of a rod of ground should be interested might not be amiss.

First then, your inquirer refers to a caution published in an earlier number of the *Agriculturist*, "against transplanting trees while the sap is in circulation," assigning as a reason that it cannot be done without injuring them.

Now I suppose that correspondent will admit that the sap is the *blood* of plants, and that it carries and deposits the material of growth in the vegetable system as the liquid we call blood does in the animal. If this proposition is admitted, then I should like to know at what season of the year (unless its progress be stopped by frost) the sap is out of circulation? It surely is in spring, and in autumn, after the fall of the leaf, for if a tree be wounded, the liquid element flows out in quantities and character not to be mistaken. It must also circulate in summer, for when a branch is broken off we see its leaves wither from the withholding of their natural element; so, too, if a tree is cut down or broken off by the wind, we see the same result. It is also manifest in the grass of the field, which flourishes until the hand of the mower lays it prostrate at his side, when it soon withers and dries up.

But without entering into further queries in this matter, I will suppose that what the writer means in his allusion to circulation, has reference to the seasons when there is a visible flow of sap, or, in other words, when the tree or shrub bleeds on being wounded, periods in deciduous trees which precede the putting forth of the leaves and return of frosty weather after their fall in autumn. Taking this supposition for truth, I am ready to admit, with the correspondent, that the tree is in danger from careless removal, for if it is much mutilated in the process, unless precautionary measures are

adopted, there will be danger of its bleeding to its serious injury, if not to its utter ruin. In such cases, then, the tree should be taken up with care, and with as little wounding or breaking of the roots as possible. To exercise a perfect surgical operation, the bruised and wounded parts should be cut off *smooth*, with a sharp instrument. Some application should then be made to close the pores, to prevent a further effusion of sap. The most convenient and successful way of doing this, is to dig a trench of sufficient size to admit freely the roots of such trees as you are taking up, which trench fill with water, and to this add one-third of recent cow-manure (a substance the healing qualities of which on timber cannot be too highly recommended), and two-thirds of sand or finely pulverised earth, which stir until they are thoroughly mixed and are of the consistence of a thin hasty-pudding. Into this put the roots of the tree as soon as taken from the earth, and the necessary pruning is performed, and move them backwards and forwards and sideways, until you are sure that every wound has received a portion of the adhesive mixture; after which set them in their new localities, with proper care, and I am certain that the most ignorant cultivator will meet with merited success. If you prune the top, the same application may be made with equal advantage.

To the inquiry, whether deciduous trees are removed more safely in the autumn or spring, I would say, that matter depends somewhat on the season. It is much better to transplant in autumn if you can be assured that the coming spring and summer will be dry; but in ordinary seasons it matters but little whether spring or autumn, if the operation be properly performed. I have taken up trees four feet high in July, and treating them in the manner above described, and had them live. These, however, were removed but a little distance, were sheltered from the sun, and liberally watered, more for experiment than profit. In removing in the fall, I

should prefer doing it as soon as possible after the leaves have ripened, and in spring at the bursting of the bud.

As to removing evergreens in the Middle States, my remarks may not apply, for in this matter I shall confine them to my own experience. For experiment sake, I have set them of various sizes in every month of the year, and have them now living and doing well that were so set. Yet I have found a *choice* of times, which is after the bud has burst in the spring, and a new growth commenced, which time, in the land of my sojourning, is from the 10th to the 20th of May, or in very late seasons extended to the 1st of June. In removing evergreens I would select from open pastures and take up as much of the soil as possible. In such places, there is but little difficulty in taking all the root and all the earth, and success is almost certain.

Mount Osceola, Jan. 25th, 1847. W. BACON.

CULTIVATION OF INDIAN CORN.

At your request I submit a statement of my mode of cultivating Indian corn, with such remarks appertaining thereto as the subject would seem to require. The island on which I live is situated in latitude 43° 40' N., and comprises about 1,100 acres, a large portion of which is good arable land, the remainder being occupied by pastures or reserved as woodland. The soil consists of a brownish-yellow loam, which, when tilled, becomes warm and retentive of manures. The subsoil is of a bright yellow, underlaid by a hard-pan, varying in depth and thickness. A specimen taken from a highly cultivated field, which had produced 130 bushels of corn to the acre, as analysed by Dr. C. T. Jackson, of Boston, gave the following results:—

Mechanical separation of 1000 grains of gravel, sand, and loam.

Coarse pebbles,	-	-	-	90
Fine pebbles,	-	-	-	260
Fine loam,	-	-	-	650

1000

Chemical analysis of 100 grains.

Insoluble silicates,	-	-	-	80.8
Peroxide of iron,	-	-	-	2.2
Alumina,	-	-	-	4.0
Salts of lime,	-	-	-	0.4
Magnesia (a trace),	-	-	-	—
Phosphate of alumina (a trace),	-	-	-	—
Vegetable matter,	-	-	-	8.7
Water,	-	-	-	3.9

100.0

500 grains of the soil were digested in boiling water—2.3 grains dissolved. The solution was of a yellow color, and consisted of

Vegetable matter,	-	-	-	2.0
Mineral matter,	-	-	-	0.3

2.3

The residue from the solution before burning was acid, and after burning, alkaline. The acid was then a vegetable acid. The following substances were taken up by the water, viz.—muriatic, sulphuric, carbonic, and phosphoric acids, soda, lime, magnesia, silica, iron, and manganese.

The rotation of crops which appear to be the best adapted to my farm is, 1st, potatoes; 2d, In-

dian corn; 3d, wheat; and then lay down to grass and continue it for mowing until bound out—say six or seven years. Preparatory to planting my potatoes I usually plow the sward soon after hay-time, and let it lie in the furrow until the following spring. The ground is then cross-plowed, thoroughly harrowed, and planted with potatoes, in rows three feet apart in one direction, and two or two and a half feet in the other, with no manure except a little plaster of Paris put in each hill. My average crop of potatoes is about 300 bushels per acre.

After harvesting the potatoes in the fall, I cart on 18 or 20 loads of barn-yard manure to the acre (50 bushels to each load), which is spread broadcast and then plowed in. From the beginning to the middle of the May following, the ground is well harrowed, and 30 loads of green, unfermented stable manure, made during the winter, are added, which is immediately after plowed in, sufficiently deep to be well covered. By this process, the coat of fine manure, applied the fall previous, becomes well incorporated with the soil, and gives the young corn-plants a rapid start in the earlier stages of their growth, while the coarse manure, applied in the spring, lends its aid in filling out the ears. From the 20th to the 25th of May the ground is again well harrowed, and shortly after planted with corn. The variety I employ, which sometimes bears my name, was produced by cultivating, for a succession of years, selected ears of the northern eight-rowed yellow, with cobs having small butt-ends, of good length and uniform size, the second ripe in the field, and taken from stalks bearing more than two ears to each. The grains of this corn are large, the cob small, and the ears are usually from ten to thirteen inches in length. The largest crop I have raised is 136 bushels per acre, weighing in the ear 9,520 lbs., or 70 lbs. to the bushel, and 59 lbs. per bushel when shelled. (a)

I plant my corn in hills (four kernels to each), three feet apart one way, and two feet the other, reducing the number of spires in each hill to three, at the first hoeing, which is neatly done, without cultivator or plow, when the plants are about three inches high. In the month of July, I give the corn a second and third dressing, by lightly moving the surface of the soil with the hoe, without making any mould or hill, leaving the ground quite level and smooth. Early in September, or as soon as the ears are completely formed, and their silks begin to dry up or wither, I top the corn and preserve the stalks for winter fodder. Towards the end of that month the crop is usually harvested, immediately after husked, and stored on the ear in the granary until required for the market or the mill.

In preparing for the third crop in rotation, directly after the corn is harvested, the ground is plowed and left in the furrow until the April following, when it is cross-plowed and well harrowed, as soon as it is sufficiently dry, and each acre is sown with 1½ bushels of Siberian or tea wheat, 5 lbs. of clover seed, and a quart of herds-grass seed (Timothy).

Preparatory to sowing the wheat, I wash it in several waters, and then add the grass-seed with about four quarts of air-slacked lime, well mixed. After the seed is sown, the ground is again thoroughly harrowed, and lastly rolled, in order to leave

an even surface for the subsequent mowing. In favorable seasons, my wheat crops average from 25 to 35 bushels per acre.

Long Island,

JOHN BROWN, 2ND.

Lake Winnepiisogee.

(a) This variety of corn, from the high degree of latitude in which it grows, appears to be adapted to all the New England States, New York, New Jersey, a portion of Pennsylvania, Ohio, Michigan, Illinois, Canada West, Iowa, Oregon, &c. We have ordered some for seed, and shall soon have it on sale.

ADVICE TO EMIGRANTS.

THE western country, like most all new countries on their first settlement, is subject to general and fatal maladies, and this will continue to be the case until its settlement and improvements become extended over its entire surface, so that every stagnant marsh and pond shall be opened, its poison let loose, and exposed to the neutralizing effects of the elements. This fact seems to be little known or thought of by new settlers, especially those who come from foreign countries. I do not wish to be understood to say aught against emigration, because a new country is sickly; for emigration is necessary.

Generally speaking, the first and main object in view by the emigrant, is to get rich land, for it is natural to expect that the products of such a soil will be more abundant. But where is it found? On streams, the borders of rivers, lakes, marshes, &c., and here the location is made. And what is the result? Before the first season half expires, and before the time of harvesting is past, he and his family are prostrated by sickness, his crops are lost, or destroyed, and if he and his family are fortunate enough to recover, which often is not the case, he finds his prospects are blighted, becomes disgusted with the country, and nothing can satisfy him but to return. To effect this his farm and home are sacrificed, or abandoned, and he finds in the result, on reflection, that he has committed an error in the operation.

To those about to emigrate to this country, I propose to offer a little advice, founded on more than eight years' experience. And will it be improper to ask, who is more capable of giving such advice than a physician?

The active principle or cause of our bilious fevers and epidemics is *malaria*, or a poison generated by the decomposition of animal and vegetable matter, which exists in stagnant ponds, marshes and streams. The intense heat of the sun acting upon this poison, causes it to be developed and spread its deadly effects. Hence we find in seasons of uncommon dryness with much hot weather, that sickness is most prevalent and fatal. So subtle and active is this poison that I have frequently known in sickly seasons whole neighborhoods to be prostrated within the space of a week. In such times people have been known to rise in the morning apparently in health, and before noon to be attacked with a burning fever, or sinking with a coldness and lividness of the whole body resembling all the symptoms of the Asiatic cholera.

The question may be asked by many who have

already made up their minds to emigrate to this country, whether the disease is fatal? Why, it is so to those who neglect skilful assistance in season, but to those who have timely and efficient aid it does not generally lead to any serious result.

I hold that knowledge of every kind, and particularly that which concerns life and health, can be of no injury to any one, and in my opinion, emigration will only become safe and practicable when such knowledge shall become general.

It is hard to make some understand why locations near streams, marshes, and stagnant pools, are more unhealthy than higher and more elevated places. I have often been ridiculed for voluntarily advising people of their danger in such situations, unless they change their locality.

The past summer has been one of general sickness and fatality, in these parts, so much so, that grain has been suffered to stand in the field unharvested. Many who have large numbers of cattle have been unable to cut and prepare fodder for them; and in some counties in this and the adjoining states, courts have not been held at their usual terms on account of sickness. I have observed this season, and previously, that the fatality has been most prevalent among new comers, particularly the Germans. Had they the necessary information and all the requisite advice, much sickness and disappointment might have been avoided.

As parting advice, I would earnestly entreat all who are to come to this country, to select a farm or location away from streams and stagnant waters of all kinds. Do not let the idea of *just such a piece of land*, of having just such a *rich soil*, or water privileges, or nearness to market, allure you. It may seem healthy at the time, and those who are anxious to sell may tell you it is healthy; but pay no attention to them, for summer will again come, sickness will overtake you, and you will find that I am right.

ANDREW STONE, M.D.

Crown Point, Lake Co., Ia.

SUPPOSED EFFECTS OF THE GASES OF BRICK-KILNS.

I OBSERVE that in the last number of your useful periodical, you notice some observations which I made at the New York Farmers' Club on the destructive effects of the gases of brick-kilns. Quoting, I presume, from a report made in another periodical, you have fallen into an error, which I corrected in that paper, and which you will oblige me by also correcting in your next number. [We have quoted no periodical in this case, within our knowledge.] I stated that the gases from brick-kilns, at the latter part of the burning, continued to pass off in great quantities, for from six to twelve hours; that they, or some one of them, were very injurious to fruits, vegetables, &c., when moisture was present in the atmosphere; and that, under certain conditions of the air, such for instance as the presence of a fog, a gentle rain, the wind passing over the kiln at this period, with a breeze so light as not to commingle the gases, or to dilute and dissipate them through the atmosphere,—they might extend a distance of eight or ten miles, and destroy the *leaves* and *fruit* of the *orchards* in its course, injuring those most that were nearest. And I added, that I could conceive it possible, under similar

circumstances, when the orchards were in bloom, for the delicate blossoms to be injured even at the distance of 12 to 15 miles. *I did not say the orchards would be killed, in either case.* I have arrived at these conclusions after a close investigation of more than seven years, during which period I have frequently witnessed the injurious effects of these gases strikingly manifest at a great distance from brick-kilns, as well as in their vicinity; always, of course, in the direction in which the wind was blowing at the time the gases were passing from the kiln.

During the past season the destruction of the fruit, the New Town Pippin especially, for many miles each side the Hudson River, between New York and Albany, has been very great. The season before the last the orchards generally escaped, owing to the prevalence of a drought for a great part of the spring and summer, though during a fog in June I lost the fruit on eight hundred New Town Pippin trees from the gas of a burning brick-kiln; for it is admitted that without moisture the injury is slight, if any, at any considerable distance from the kiln. I am well aware, while ascribing the great destruction of apples, &c., on the Hudson, to the gases of brick-kilns, that the little insect called the *Aphis* has also been very numerous, and proved destructive to the leaves of the trees, and consequently injurious to the fruit of many orchards; but any person who will take the pains to investigate the subject properly will find no difficulty in distinguishing the effects of the one from those of the other. When you examine the leaves on which the *Aphis* is making his banquet, you find him sucking the juices from the under surface; and the leaves appear thinner than those which remain uninjured. But where the injury is produced by the gases of brick-kilns, the leaf is destroyed on that part where the moisture would naturally settle; that is, the pendent or lower edge of the leaf is dead, and often cut off for half an inch or more, and the part adjacent turned a dark color. If the leaf is so bent or formed as to collect the moisture on any other portion of it, you will then find this portion also killed and turned brown. The wounds produced upon the leaves by the gas are far more injurious to the fruit than any arising from insects; for even where a small portion is destroyed by the former it produces diseased action in the whole leaf, and by corrupting the juices injures or destroys the fruit; and would in time no doubt injure the trees also.

I have no desire to represent the injury to fruits, vegetables, &c., from the gas of brick-kilns, any greater than it is, for I believe it is bad enough. My only object in bringing this subject before the community has been, that it may receive a thorough investigation; that the truth or fallacy of my statements may be proved; that if true (of which I have not a doubt), an end may be put to the evil as soon as possible, by discovering some material which may be mixed with the clay, or the bricks before burning them, in order to prevent the formation of gases destructive to vegetation. By burning only late in the fall, and during the winter months, no injury would be produced. This plan will be adopted the coming season by at least one proprietor of a large brick-yard, who has been con-

vinced of the propriety of this course by the injury which his own orchards and those of his neighbors have sustained during the past summer. I believe a sense of justice and propriety will induce others to follow his example when they have looked into the subject, (a)

R. T. UNDERHILL, M.D.
New York and Croton Point, Jan. 19th, 1847.

(a) The observations of Dr. Underhill may be corroborated to a considerable extent from several causes tried in Liverpool some time since, founded on proceedings by Sir John Gerard, of Lancashire, against certain alkali manufacturers for enormous injuries done to his woods. He claimed compensation of the defendants for extensive damage alleged to have been done to his timber by the vapor proceeding from the chimneys of the works, the effects of which were said to have been felt at a distance of one or two miles.

Notwithstanding there was much conflicting testimony adduced by the parties on all sides, it was incontestably proved that injury of the most extensive kind was caused by the acrid gases of the alkali works. The plaintiff rested his claims upon the fact that the trees most exposed to the works were most injured; that they had been healthy until said alkali works were put in action; that the destruction of the trees consisted in their leaves being scorched or browned; that they then became "stag-headed," and that there was no apparent cause for this sudden change from a state of vigor to one of rapid decay, except the presence of noxious acrid vapor in the air. That such vapor was discharged from the defendants' chimneys into the plaintiff's park and grounds, was proved by persons who had watched it; that it was of a very acrid nature, caused their eyes to smart, and produced coughing when it entered their lungs, although two miles off. That these symptoms indicate the presence of muriatic acid gas; that muriatic acid gas is largely thrown off by the chimneys of alkali works, and that it produces noxious effects on plants similar to those which were observed in the plaintiff's woods, was also conclusively established.

It was a noted fact that the injury was chiefly done to oaks, ashes, and larches. Not that other trees escaped; on the contrary, limes, beech, Spanish chestnuts, and elms, furnished their quota, but to an inconsiderable amount. Hazel, it is said, escaped altogether, and alders, sycamores, and young Scotch firs suffered little, if at all. Old Scotch firs were, however, greatly damaged. This is no doubt connected with the powers which different trees possess of resisting external poisons. The oak, larch, and ash, are the most tender leaved of forest-trees when the leaves are young, and it might be expected that they should be most easily injured by muriatic acid gas. The sycamore, on the contrary, is naturally able to resist the sea-spray, which has an analogous action to that of muriatic acid gas; hazels and beech are guarded by their copious hairs; alders by their glutinous varnish. Besides which, plants certainly have, like animals, specific powers of resisting poisons; and therefore it does not follow that because A and C are killed by x, that B, D and E shall also die. A dog is not killed by dropping hydrocyanic acid, perhaps the most subtle

of all poisons, upon its skin; a horse will take a pint of castor oil without danger; rhubarb will not act upon him at all, though it produces its usual effects on a cat; and opium, which so readily stupefies man, will hardly operate that way on a dog. A dose of chlorine which killed all the foliage of *Escallonia rubra*, hardly touched a *Cineraria* guarded by its natural wool, and did not in any way affect the young, tender, expanded leaves of *Berberis aquifolium*, although the old leaves were destroyed! In another case, when a strong dose of muriatic acid gas was thrown into a box containing various branches newly cut in the autumn from the trees, the following was found to be their condition twelve hours after the experiment:—

Scotch fir—little affected; larch—nearly every leaf killed; ash—every leaf killed; oak—youngest leaves only injured, old leaves not; whitethorn—youngest leaves killed, old, browned at the edges in various degrees, or not affected; sycamore—some leaves quite uninjured, others half killed, others quite; the leaves were only affected where the corrosive vapor had been condensed upon them in considerable quantity; alder—old leaves safe, younger leaves variously affected and curled; hazel—the same; elms—the same; grass—variously but not much affected, a good deal quite green, some quite brown.

Another curious circumstance on which the defendants' counsel much relied, was the presence of single dying trees among others that appeared uninjured. For example, a "stag-headed" oak might be found among healthy oaks, a dead Spanish chestnut tree in a wood near where another escaped, and so on. This was true; and it was argued that such cases completely overset the opinion that injury to the trees was caused by noxious matter brought to them through the air from a distance; for, said the counsel, "if the cause were referable to vapor, clumps of trees and not isolated trees would have been withered and destroyed." But these cases admit of an easy and satisfactory explanation, independently of the fact that they formed a great exception to the rule, which was that the trees did die in long lines or large patches. There can be no doubt that individuals of the same species have different vital powers; that what physiologists call *idiosyncrasy*, occurs among plants as well as animals, and that one individual is susceptible of a dose of poison which would be disregarded by another. In all epidemics the weakest persons perish first; if vermin attack animals the unhealthy are first seized upon; one man is intoxicated by a glass of wine, another will drink his bottle; one lady faints when violets are presented to her, another wears them on her person; one man is killed by four grains of opium, and another habitually indulges in nine ounces of laudanum daily. Here it is evident that there are great differences in the vital power of the same species; for there is a vital power which overrules all other forces, whatever materialists may say to the contrary. And so it is with plants, which are much like animals in many curious respects, not the least remarkable of which is the way in which they are influenced by poisons of whatever kind. This, then, is the undoubted explanation of what would at first ap-

pear an inexplicable mystery. A tree is naturally of a weak constitution; a stream of muriatic acid gas plays for an hour or two on its leaves, and it falls a victim. Another near it, in full vigor, resists the action so far as not immediately to die; but it is injured and becomes unhealthy, and when again exposed to a sufficient dose is advanced another stage in its downward road; and this action going on at various times, under various circumstances, will of itself produce a complicated result.

Two of the cases were decided in court in favor of the plaintiff, one was compromised, and one referred, in the latter of which the arbitrator awarded £300 for the damages committed, and directed the defendants to pay all the costs of the reference, so that the total damages were as follows:—Muspratt, £1000; Crossfield, £400; Gamble, £300; Kurtz, £300.

COTTON-GIN STANDS.

A FEW years ago, I thought of testing the relative value of cotton. I took from the pile I had been ginning a small parcel of seed cotton; also a sample from the pick room. The first I ginned on my spinning ginnet, which has small fine teeth, and cards that pass with sufficient velocity to clean each tooth. I sent to an excellent judge, a commission merchant, in Vicksburg, and also to New Orleans, samples of each for examination. I then went to work, raised my grates so as to give fewer teeth access to the cotton, to make them pass it out parallel with the grates, I decreased my speed by diminishing the whirl on the brush, and increased the size of the drum on the saw cylinder, and put it to work. This was the labor of my own hands; the consequence of which was, that I have sold cotton by the same agent at a cent a pound higher than others who had outsold me before.

I will give the figures. My driver on the old stand is 50 inches in circumference; the whirl that gives motion to the brush, I cut down to eight inches, thus giving my brush over six revolutions to one of the saw. The saws had about 200 to 220 revolutions to the minute, and my brush had over 1200 revolutions.

A gin-stand should be run very steadily, and very regularly, with a gin-band seven or eight inches wide at least. *Keep it well oiled with neats-foot oil and tallow mixed, to prevent slipping.* This will be worth the subscription of your paper ten times told, to many young planters, for I have tried everything but the oiling, and never knew a man to do it before this winter. I have had to cut and tie, have had strings break two, three, and four times a day from tightness of band, and now I have ginned out 23 bales without a single stoppage on this account. Another matter—get No. 1 leather, and make it with copper rivets; have the gin-stand level, and square with your wheel; fix the band so it cannot vibrate, if possible. Have a heavy, strong frame to gin-stand, every portion inside thoroughly sand-papered as smooth as glass; have fine teeth, ten to an inch, let them pass out parallel with grates; let the saw through the grates into the cotton box so as to measure one inch in the centre of the saw, and three-fourths of an inch above; put bristles thick along the wings, into small holes, so as the

line of bristles will be thin; let them be stiff, about one inch long, make 16 arms, and if no dead air created by speed, give the brush six or seven revolutions to the arc of the saw; give the saw about 200 revolutions in a minute, and I think a sixty saw gin, in clean cotton and that has lain in bulk well pressed, *having been thoroughly dried* before putting up, will gin $2\frac{1}{2}$ bales of 400 lbs. each. As Mr. Abbey says, "the brush is one of the most important things about a gin-stand"—so say I, and I agree with him, give it all the motion that is safe, and that will give draft enough. By giving motion, each wing or brush will clean fewer teeth, and will blow it apart from the compression it received in passing into the tooth.

I would add another thing. The mote board should be constructed so as to allow it being dropped low, or raised; when the brush is going rapid, and the mote board too narrow, there is much cotton wasted with the motes. It seems to me, that, in giving a brush velocity, there should be drivers on each end of the saw cylinder, so as there need not be so much tension on the band, which causes too much pressure on the gudgeon; consequently friction, wear, and heating, if there were bands at each end, of course there would not need be so much tightness in the bands.

M. W. PHILIPS.

Edward's Dépôt, Miss., Oct. 25th, 1846.

APPLE AND PEAR TREES DESTROYED BY THE LOCUST.

THE Seventeen-year Locust (*Cicada septendecim*) has heretofore been considered by horticulturists as harmless, or nearly so; but from the fact of their burrowing into the earth the moment of their escape from the egg, and living for seventeen years amongst the roots of trees, and nowhere else, I was led to believe that the failure of fruit, particularly the pears and apples, was mainly owing to these countless swarms draining the sap from the roots, and thus rendering them unable to supply the branches with sufficient nourishment. I was confirmed in this opinion by an experiment made by J. B. W., of New York, and published in the Horticulturist, November number, page 227, to which I refer you. The method there prescribed, "to renovate an out cast," is to dig a trench four feet wide, and twenty inches deep, around the tree, leaving a ball of earth six feet in diameter, and then to fill the trench with rich earth and compost. The author states that the experiment succeeded, and that in three years the tree was in a flourishing condition and again yielding fine fruit. The writer attributes the change to the new and rich soil with which he supplied the tree, while I argue that in destroying the larvæ of the locust, which he did when he cut off so large a portion of roots, he removed the real disease, and the tree was then in a condition to take advantage of the congenial soil placed around it, and new life was given to the roots and branches.

Under this impression I superintended a similar experiment on a tree that had been declining for years without any apparent cause, as there were no insects on the tree, and the roots had been amply supplied with manure. Agreeably to my expectations I found the larvæ of the locust in countless numbers, clinging to the roots of the tree, with

their suckers piercing the bark, and so deeply and firmly placed, that they remained hanging for half an hour after being removed from the earth. From a root a yard long and about an inch in diameter, I gathered twenty-three larvæ; they were on all the roots that grew deeper than six inches under the surface, and measured from a quarter of an inch to an inch in length. The roots were unhealthy, and bore the appearance of external injury arising from small punctures, and on removing the skin of the bark this appearance increased, leaving no doubt as to the cause of the disease. The larvæ were enclosed in compact cells of earth, with no outlet except that in immediate contact with the roots. As there were no galleries or holes leading from these cells, I infer that the grubs never leave the roots they first fasten on, which may account for their great difference in size, the small ones being starved specimens of the same brood.

Though this curious insect has always made its appearance at stated intervals over our broad land, few appear to be acquainted with its history and destructive habits, all believing that the only injury received from them, was while depositing their eggs on the branches of the trees; but if we trace them through their various changes to their subterranean home, we will find them a destructive and insidious foe, robbing us slowly but surely of our fairest and most valued fruit. This insect is not a true locust, but derives its popular name from its fancied resemblance to the locust of the East, which belongs to the family of grasshoppers (*Locusta*). The *Cicada septendecim* appears in June every seventeen years. When they emerge from the ground they are grub-like in form, destitute of wings, and covered with a tough shell, a proper and most convenient coat, that effectually protects them while in their earthly abode. The evening and early morning hours are best suited for them to undergo their change, and accordingly as soon as the sun disappears they may be seen creeping from the earth in countless numbers, crawling to the nearest tree or shrub, which they climb until they reach a convenient spot to grasp firmly. There they await the change, which begins by a slit opening in the back of the shell, and the fly gradually draws itself out, the body enlarges, the wings expand, and the creature assumes new life and energies, though it always continues heavy and rather sluggish. They live in the winged state three or four weeks before they deposit their eggs, subsisting on dew and moisture on the leaves of the trees. The female has a strong and curiously contrived piercer with which she carefully slits the bark of the twigs of trees and shrubs, and deposits her eggs in pairs, side by side, but separated by a portion of woody fibre, and placed obliquely so as to allow one end to point upwards; from ten to twenty eggs are deposited in this slit. She then removes to a little distance and makes a new nest, when a limb is sufficiently stocked, she removes to another, until her store of eggs is provided for, when she becomes exhausted, falls to the ground, and soon dies. One female will deposit four or five hundred eggs. The eggs require forty-two days to mature in the branches of the trees; they then burst the shell and appear a minute but active fac-simile of the parent in the larva state, requiring but a few moments to stretch

their limbs and prepare for labor, before they unloose their hold of the twig on which they had been deposited and fall to the ground, when they immediately disappear in search of food in the roots of the parent tree.

If the eggs that are about to be hatched, be placed over a glass jar filled with earth, the young grubs will in a few hours after their escape from the egg, be seen at the bottom of the jar, endeavoring to force their way still deeper. When first hatched they are very small and white, but soon change to a yellow brown. They exist in separate tribes, occupying a different section of country, making their appearance in different years, but invariably after the same interval of time. For a year or two before and after the appearance of the main body a few scattered individuals will generally be found. Their favorite trees appear to be the oaks and fruit trees in general, avoiding the fir, walnut, and hickory tribes, though they will occasionally deposit their eggs on them should no other tree be convenient at the proper moment. From the universal belief that the cicada were harmless, no means has yet been adopted to restrain their numbers, though no insect has more natural enemies; helpless and unresisting they fall an easy prey to all that attack them, and reptiles, birds and beasts alike seek them eagerly, and find them nourishing food. The larvæ will subsist on the roots of trees several years after the trees have been cut down, provided the roots remain alive, which is frequently the case. The roots of an apple tree will continue growing and throw up suckers six or seven years after the tree has been removed. On the return of the locusts, hogs and ducks will be found efficient aids, as they are untiring in their search after them. In the grub state, moles and ground mice are their chief enemies.

M. H. MORRIS.

Germantown, Pa., Feb. 2d, 1847.

THE BEST VARIETIES OF CORN FOR SHIPPING.

On page 208, in the fifth volume of the *Agriculturist*, in a condensed account of the properties of Indian corn, &c., purporting to have been taken from Dr. Jackson's Final Report on the Geology and Mineralogy of New Hampshire, will be found the following extract:—"The use of the oil in corn is obviously to prevent the rapid decomposition of the grain in the soil, and to retain a portion of food until needed by the young plant, and is always the last portion of the grain taken up. It serves to keep meal from souring readily, and it will be observed that a flint corn meal will keep sweet for years, even when put up in large quantities; but the Tuscarora meal will sour in a short time. The latter is the most digestible grain for horses, and is soft, but it is of little value for feeding swine. It is a good kind of grain for rapid cooking, for its meal is quickly boiled or baked."

It is further remarked on page 361 of the same volume that "the varieties of corn which will best bear transportation by sea, are those containing a large proportion of oil, such as the Golden Sioux, the King Philip, or Northern eight-rowed Yellow, the Dutton, the Browne, the Rhode Island White-

Flint, &c.; but the flour made from those varieties is not so palatable to those unaccustomed to its use, as that made from the soft, farinaceous varieties of the South and West, which are improved by kiln-drying."

I also read a communication in the *N. Y. Journal of Commerce* some months ago, which has since been extensively copied into other papers, stating that, as Indian corn meal contains so much fat, it is liable to become rancid if kept too long, and is then more or less unfit for use, and that white meal will keep rather better, and from its being lighter and milder it is much preferred for use in warm climates, &c.

As the last statement is at variance with those made by Dr. Jackson and yourself, I am at a loss to know what variety of corn to plant the coming season that will yield the most profitable return. By informing me what variety is most sought for by shippers you will oblige A YOUNG FARMER.

On inquiry among merchants we find that at one time, yellow corn will be in demand, at another the white, and then both varieties mixed; but generally the latter is objected to.

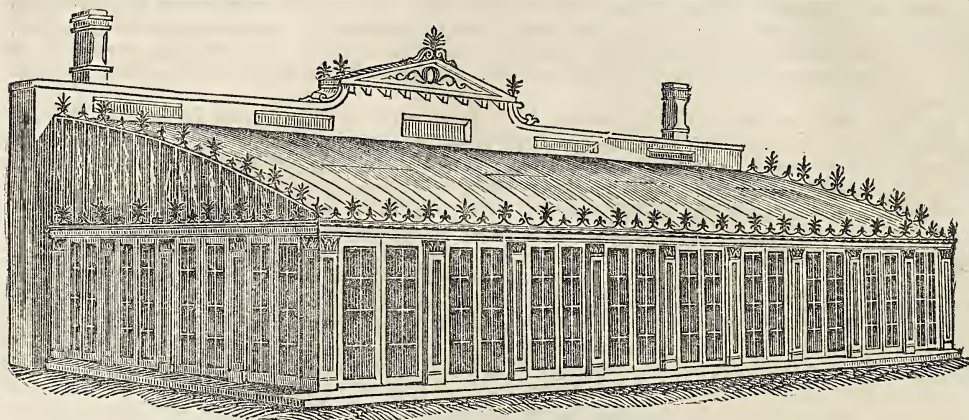
For the purpose of shipment, we would recommend the culture of the most productive flint varieties, either yellow or white, north of Maryland; but in other parts of the United States, we think the large gourd-seed and other productive kinds will prove the most profitable, notwithstanding the necessary expense of kiln-drying.

AMERICAN AGRICULTURAL ASSOCIATION.

THE Annual Meeting of this Society for the election of officers for the ensuing year, was held at the Historical Society's Rooms, on the 1st of February, and the following gentlemen were elected:

For President, Hon. Luther Bradish; *for Vice Presidents*, Hon. Theodore Frelinghuysen, James Lenox, James Boorman, A. H. Stevens, M.D., T. A. Emmet, H. Maxwell, S. Whitney, S. Knapp, *Vice Chancellor* McCoun, Cyrus Mason, D.D., W. A. Seeley, J. S. Livingston; *for Treasurer*, A. P. Halsey; *for Recording Secretary*, R. Ogden Doremus; *for Corresponding Secretary*, A. H. Green; *for Executive Committee*, R. L. Pell, J. W. Draper, M.D., Archibald Russell, Edward Clark, D. P. Gardner, M.D., R. K. Delafield, Shepard Knapp.

Caution in applying Coal Tar to Peach Trees.—Dr. Alexander H. Stevens stated that the application of coal tar to peach trees, as laid down by late authority, in the state in which it comes from the gas-house, for the purpose of destroying the borer, he had been credibly informed, invariably killed them; but if used after undergoing the process of distillation, he had found from experience that it was an effectual remedy without injury to the trees. Dr. D. P. Gardner remarked that the article referred to by Dr. Stevens was obtained from the coal tar of the gas-house in Canal street, and had been submitted to distillation by Messrs. Blackwell, at Astoria, for the purpose of extracting the fetid naphtha it contained. Naphtha, he said, is a very penetrating substance, and doubtless is destructive whenever applied to plants and trees in any considerable quantity. If, therefore, the coal tar employed by Dr. Stevens proved effectual without injury to the trees, it probably arose from the separation of the naphtha.



FULL VIEW OF A HOT-HOUSE.—FIG. 16.

CONSTRUCTION OF HOT-HOUSES.—No. 1.

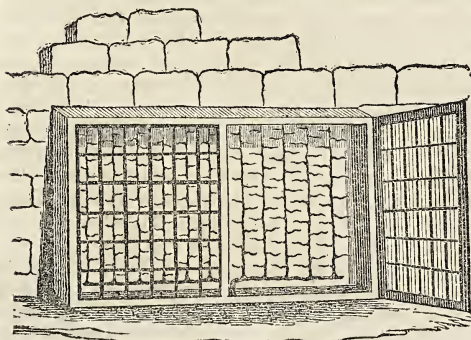
As the construction of hot-houses and the modes of heating and ventilating them have had, and still hold, a large share of interest both in Europe and in this country, and have been attended with the best results in forcing grapes, figs, and other choice fruits, as well as in the production of rare exotics and early vegetables, we have the more confidence in bringing this subject before our readers.

The most usual and economical form for constructing a hot-house, or conservatory, is with a lean-to roof, facing the south, glazed in a similar manner as denoted in the above representation, designed by Mr. J. Thomson, Landscape Gardener, Garden Architect, Nurseryman, &c., of Hammer-smith, England. Another form, called the *ridge and furrow house*, although more costly in its construction, is preferable on account of obtaining a more equal diffusion of the sun's influence than any other description of building. When fronting the south, that is, with the ridges north and south, inclining upward from the front to the back, at the same angle of a lean-to roof, the angles from the ridge to the valley of this class of house will then be east and west; thus presenting a surface to the

direct rays of the morning and evening sun, while those at mid-day will strike the angle obliquely and produce a more equal temperature, the benefits of which are obvious from the longer duration and more equal distribution of the influence of the sun.

For the purpose of forcing vines, nectarines, &c., the ridge and furrow system has a decided advantage over every other mode of construction. Suppose a house to be planted with black Hamburgh grapes, it is seldom desirable to have the fruit all ripe at a time; on the contrary, it is better to have it in perfection as long as possible. Now with one vine under the ridge and another under the furrow rafter, throughout the house, this object will be attained, as the heat will always be greatest in the angles under the ridge, and least under the furrow; consequently, the grapes under the ridge will be considerably earlier than those under the furrow; besides, a better distribution of the sun's rays will be secured for each vine than under a plain surface. A similar advantage will be gained if the house be planted with various sorts, by keeping those requiring most heat, such as Muscats, Frotignans, &c., under the ridge, and Hamburghs, Sweetwaters, &c., under the furrows.

COVERING WALL-TREES AND FOREIGN GRAPE-VINES WITH GLASS.



GRAPE-VINE TRAINED WITHIN A FRAME.—FIG. 17.

Those who desire early plums, nectarines, foreign grapes, &c., can obtain them at a compara-

tively small expense, by inclosing the trees or vines upon a wall within a frame in the manner illustrated by the adjoining wood engraving.

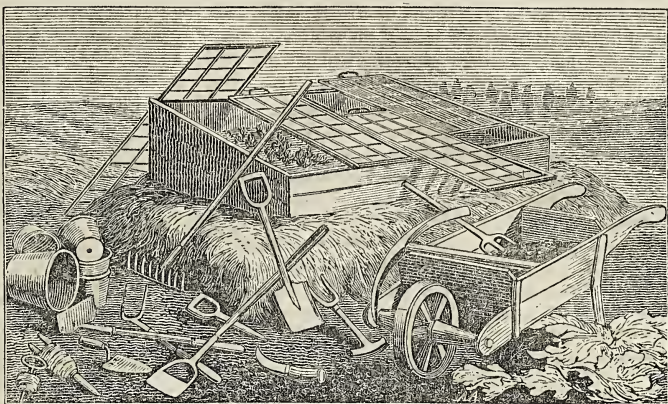
The doors, or windows, forming the frontage, may be hung with hinges, and opened or shut at pleasure, for the purposes of watering, ventilation, pruning, gathering the fruit, &c. The glass in front, when closed, would not only protect the trees from cold, but would assist in bringing the fruit to maturity and guard it in a great measure from the attacks of flies, wasps, and most other insects, liable to prey upon the trees. The cost of a frame of this description, 7 feet by 12, in front, need not exceed fifteen or twenty dollars.

HORTICULTURE.—God first planted a garden; and indeed it is the purest of human pleasures; it is the greatest refreshment to the spirits of many, without which buildings and palaces are but gross handy works.—*Lord Bacon.*

PROFITS OF A GARDEN.

THE profits of a garden near a large city, of the extent of 10 or 15 acres, are as great as that of a farm of ten times the extent cultivated in the best manner, without the help of purchased manure. But if manure can be obtained at a reasonable rate, as is often the case in great thoroughfares, where many horses are kept for public conveyances, although there be no immediate demand for vegetables, a garden may be very profitably cultivated, entirely for the purpose of raising seeds. The demand for seeds of all the most common productions of a garden, and especially of flowers, is very great; and the profit of those who retail them in small quantities is so great that they can afford a liberal price to those who raise them with proper care, so as to keep the varieties distinct.

Many plans have been proposed for the distribution of the crops in a garden; but none of them are suited to every situation. Much depends on the nature of the soil, which may be better suited to one kind of produce than another, and also to the demand for any peculiar class of vegetables. New sorts may often be introduced with advantage. The raising of any useful plant with great care will often give a man a reputation, which makes it advantageous to him to confine himself to these principally, and raise them in the greatest perfection. An ingenious man will find out what is most for his own advantage; and, from the list of plants which may be cultivated for ornament or for use, a selection may be made which may be well suited to the situation of the ground and the circumstances of the grower. The practice of the market gar-



GARDEN IMPLEMENTS, &c.—FIG. 18.

deners may be examined with advantage; and long experience, with the test of profit, will lay down better practical rules than the most plausible theories.

The great productiveness of a garden is a lesson in favor of deep spade tillage. Those parts devoted to annuals should have a southern exposure; but trees and perennials often require a sheltered or northern aspect. Plants which flower should be planted far apart. The soil must be well drained. Walls and trellises in gardens are of the first importance to shelter vegetables and allow choice trees to be trained.

The implements necessary for garden tillage are displayed in the above figure; the plow may be used to assist in trenching, and improved drills for sowing; but the spade, rake, and hoe are the principal tools; indeed, labor is the great essential in the garden.—*Gardner's Farmer's Dictionary*.

QUANTITIES OF SEED SUITED FOR A COTTAGE GARDEN.—Allowing for loss or accident in garden seeds, we believe the following quantities for sowing a common cottage garden to be nearly correct:—

1 pint of peas will sow	- 14 yards of drill.
1 pint of beans will sow	- 22 yards of drill.
1 ounce of onion-seed will sow	10 square yards.
$\frac{1}{2}$ ounce of leek-seed will sow	6 square yards.
1 ounce of carrot-seed will sow	10 square yards.
1 oz. of parsnip-seed will sow	12 square yards.
$\frac{1}{2}$ ounce of cabbage-seed,	3 or 4 square yards.

TRAINING TREES.

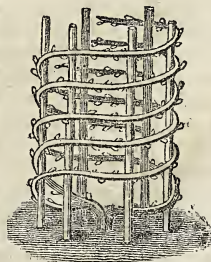
As queries are often made in regard to the terms made use of by gardeners and others, in training grape-vines, fruit-trees, &c., such as *Hoop-training*, *Wall-training*, *Fan-training*, *Training en queue*, and *en pyramide*, we insert, as we are permitted to do, the following article from the "Farmer's Dictionary," a favorable notice of which will be found on page 130 of our fifth volume.

The training of trees consists of their management, by pruning the stem and branches, so as to secure an increase of fruit of a superior quality. Training against walls has also the advantage of enabling the orchardist to cultivate southern fruits,

and ripen them more perfectly. The chilling effects of winds and excessive evaporation are averted, while the increased temperature to which the fruit is exposed renders it sweeter.

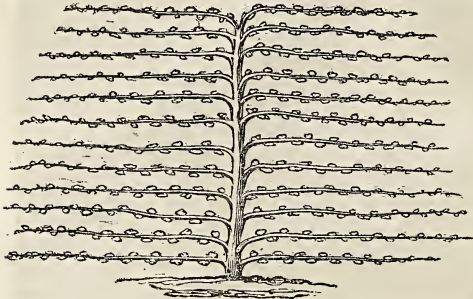
There are three general plans of training; on espaliers, walls, or as dwarf standards. The *espalier* is usually a trellis, consisting of posts ten feet high, set eight or twelve feet apart, and sustaining horizontal laths or wires; the trees are therefore trained horizontally. This is usually intended for grapes, apples, or pears. But the posts are sometimes set in circles, around which three or more branches are trained. This is called spiral or hoop-training (see fig. 19).

Funnel-training is a modification; the posts are set in an inclined direction, so as to meet at their summits, and produce the outline of a cone. Wire is wound around it at intervals of a foot. Light iron bars, or trellises of wire, are sometimes used instead of the wooden posts.



HOOP-TRAINING.—19.

The most choice varieties of fruit, which require additional heat, are placed on walls, as apricots, nectarines, peaches, plums, grapes, figs, and some cherries and pears. The method of arranging



WALL-TRAINING.—FIG. 20.

the branches differs with the fruit, but the *horizontal plan* is most recommended, especially for plums and pears. Some gardeners give it the preference in nearly every case (fig. 20).

The filbert is trained in a peculiar manner; the leading shoot is headed down to eighteen inches, and eight strong shoots obtained within twelve inches of the ground, and these are trained outward by placing a hoop between them; when they are well formed, they are trained curving upward. The centre is to be kept free, and the shoots encouraged to six feet; the small lateral branches along these shoots are to be kept down to six inches, and will bear the fruit.



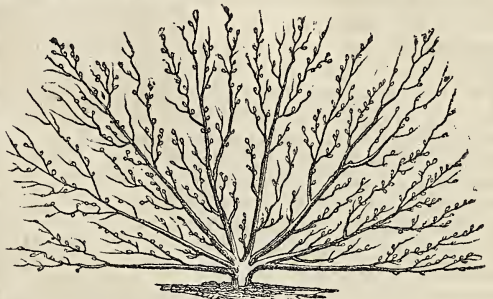
TRAINING EN QUE-
NOUILLE.—FIG. 21.

In the operation of pruning, the shoots are cut off close to the buds, or at a distance from them not greater than the diameter of the branch to be cut off; because, without the near proximity of a bud, the wounds will not heal over.

The commonest mode of training for standards is *dwarfing*. The leading shoot is kept down to eight or ten feet, and the lower branches trained out and thinned, so as to give the tree the appearance of a shrub. In this way apple orchards are managed in Europe, and it is wonderful how many varieties are thus cultivated on an acre. For this purpose, crab or paradise stocks are chosen for grafting, and the trees of small growth taken. The main stem is made to branch at eighteen inches, and the trees set at eight to twelve feet apart.

Fan-training is the most common, especially for peaches, nectarines, apricots, almonds, figs, plums, and cherries of small growth (fig. 22).

Besides these most common methods, *pendant*, *vertical*, and *high training* are practised. In the first, the branches are curved downward; in the second, several shoots, selected from two horizontal branch-

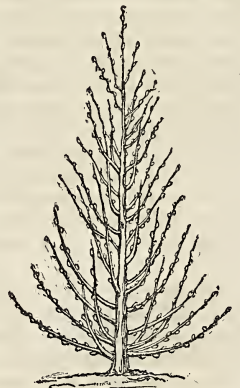


FAN-TRAINING.—FIG. 22.

es, are carried upright; in the third, the main stem is allowed to run nearly to the top of the wall without branching, and then the uppermost shoots are trained horizontally and drooping. This is especially recommended in the grape and pear. It is a good plan for filling up a wall, the lower parts of which are covered with peaches and other fan-trained trees; or are shaded by dwarf trees planted in boxes, which require to be housed during the colder months of the year.

Some gardeners combine several of these plans together, so as to give the branches partly a horizontal, and partly a fan-training, and instead of one main stem only, others select two.

Another French plan of training standards is in a pyramidal form (*en pyramide*, fig. 23); this, with the preceding, is the common method of managing apples and pears. The tree is either cut down to a dwarf of eight or ten feet, or allowed to run up to twenty or more.



TRAINING EN PYRA-
MIDE.—FIG. 23.

MASTODON COTTON.—No. 2.

THE effect *Mastodon Cotton* is going to have upon cotton growing, is difficult to anticipate; but there are some things in regard to it which may, without much hazard, be clearly expected. It is the decided opinion of many well-informed persons, that it will in a few years entirely supersede the cultivation of all other cotton in this country, except, perhaps, the Sea Island, where a very fine article is intended to be made. Whether it may be so soon cultivated so extensively as this, may be uncertain, but this much may be, it would seem, looked upon as next to certain. All saw-ginned cotton that would rank as high in mercantile classification as "middling fair," or "fair," will hereafter, in a few years, be of the *mastodon*. For it is beyond question that for the finer grades of cotton, the common Mexican can offer no successful competition to the *mastodon*;

the latter being at least quite as productive as the former, and in all other respects about as easily prepared for market. If the common cotton then be continued at all, it will be only for the production of a cheap article. For this purpose a greater quantity to the acre, or to the force in the field, can be produced than now is, for the object will be *quantity* with but little reference to its quality. But for an article as high or above midway, in the scale of classification, the mastodon will undoubtedly be resorted to. We shall then have a *wider range of classification* in cotton. We shall have more low-priced cotton, and considerable that is lower in price than what is called "Ordinary" or "Inferior," and we shall also have a much larger quantity of what is called "Good" and "Fine," and larger quantities also that will class two or three grades higher than that. This is regarded as an important point, and it may be expected greatly to increase the consumption of cotton in this section. If considerable quantities of fine cotton, such as would rank several grades above "Good" and "Fine," were offered to manufacturers, it would not only enter largely into the fabrication of new articles, but to mix with sheep's wool, flax and silk, would find a heavy consumption. While at the same time the facilities that will be given to the products of very cheap cotton, will increase the consumption. Osnaburgs, coarse clothing, sack cloth, sail cloth, and the like, will become cheaper, and consequently more abundant.

It seems then, to be conclusive that the introduction of the mastodon cotton into the United States is going considerably to increase the consumption of cotton. The planter can do what has never been done before. He can supply a large market with any quantity of fine cotton, ranging and filling up the entire vacuum between "Good" and "Fine," and the higher grades of Sea-Island; and at the same time he can supply an equally large, perhaps larger demand, for *cheaper* cotton than we now have.

If it should be also found advantageous to make *cheap* cotton of mastodon, instead of the common Mexican, which is the opinion of many, the same result will follow. On thin, dry, and sandy soil, and especially of dry seasons, the product of mastodon is supposed to be the greatest, in which case, the lowest grades of cotton will be produced cheaper than of any other kind, or at least as cheap. So that it will make no difference so far as the present argument goes, whether low priced cotton is produced from mastodon or any other kind.

The first and most obvious result following the cultivation of mastodon cotton is, the production of a large quantity of cotton of a much finer and better quality than what the trade calls "Good" and "Fine," of common Mexican; and this will only cost the same labor that that does now. But if the whole crop were mastodon, it could not all be of this quality, because of the labor required to handle it thus carefully; and if another portion of the crop, or different crops, the same labor be appropriated that usually is with "Ordinary" cotton, if of mastodon it would class as "Middling Fair," perhaps; and so on downwards, until if you make "Ordinary," or "Inferior" cotton of mastodon it would

be handled in the most hurried manner desirable, and be picked in the last of winter after being exposed to weather in the field for months.

It is through these that the trade may expect a *wider range* in cotton than heretofore. We will have considerable quantities of a far superior article to any heretofore in the markets, except a very few thousand bales of Sea-Island of the higher grades, and also a large quantity of what will *class*, so far as the appearance and handling is concerned, at and below "Inferior," but which from strength and length of staple alone, will be as valuable for cheaper goods, as "Middling," and which will be produced with the same labor of "Inferior" or common Mexican, and will probably, after a while be afforded at the same price—both of which circumstances must tend to *extend* the manufacture and consumption of cotton.

There is another that may well deserve attention. There is a disposition to consume cotton largely in making beds, pillows, &c. It is supposed that the lower grades of mastodon cotton will enter largely into these articles, its *heavy body*, great firmness and elasticity, rendering it much superior to the other cotton for these uses.

As to Sea-Island cotton, it appears to be conclusive that it cannot be cultivated in competition with mastodon, except such qualities as range above the best class of the latter.

R. ABBEY.

Yazoo, Miss., Dec. 3d, 1846.

STOCK FOR A POULTRY-YARD.

I HAVE been two years gathering stock for a poultry-yard. It is my present purpose to keep on hand for public market a supply of the best varieties of hens, ducks, geese, turkeys, doves, and everything else attainable that will add to a good poultry-yard.

At present my stock is somewhat limited, but I hope by next fall to have a full yard. At present, however, I can supply a few orders with the best variety of the snow-white, crested, black Poland hen, and the Malay hen; and next fall the Dorking hen, the golden top-knot hen, the leopard hen (all from imported stock), and the white Bantam hen. Also, Muscovy ducks (very fine), and a splendid variety of Poland ducks, very large and beautiful, with large black top-knots. The latter, which are from imported stock, are said to be great layers, and like the Muscovy ducks are peculiarly domestic and harmless; and for feathers as well as for the table, are of the finest quality. Also, white top-knot ducks, fine white turkeys, and beautiful double fan-tailed doves, all splendid varieties.

Buffalo, Dec. 26th, 1846.

N. S. SMITH.

TO FIX AMMONIACAL GASES IN VAULTS.—The most effectual substances that can be employed for the purpose of attracting ammoniacal gases, are green vitriol or common copperas (sulphate of iron), and sulphuric acid. A pound of either of these substances, diluted in a gallon of water and thrown into a vault, will immediately render it inodorous.

THATCH, on the roofs of houses, may be rendered incombustible by a common flame, by coating it over with a mixture of white-wash and alum. 1 lb. of alum will suffice for 5 gallons of white-wash.

Mr. Norton's Letters.—No. 3.

IN my former letter, giving some notes of a journey by railway from London to Dover, I had got as far as Reigate, and had mentioned the green sand formation, which appears in that neighborhood. It is here of no great width, and soon crossing it, we entered upon the the weald of Kent. The wealden is a part of the oolitic system, and is thus described by Prof. Johnston in his Lectures, to which I would refer all who wish for a more extended account of these formations. He says, "The upper part consists of a fresh-water deposit of brown, blue, or fawn-colored clay, often marly, and almost always close and impervious to water. Beneath this, are the iron or ochrey Hastings sands, which again rest upon the Purbeck beds of alternate fresh-water limestones and marls." This formation is in all, about 900 feet in thickness, and forms the central portion of both Sussex and Kent. The weald clays are exceedingly difficult of cultivation, being almost impervious to water, and baking like bricks. Much of the land is rushy and wet, and a great breadth in poor, cold pasture. The drain is exceedingly needed in this district, its judicious application followed by the exercise of good judgment in working, would, I have no doubt, alter greatly for the better even the stiffest of these clays. Where the marls and the Purbeck limestones come to the surface, and mix to a considerable extent with the clay, a much better and more easily worked soil results. Owing to the difficulties experienced in dealing with these excessively stiff clays, a great portion of the weald remains in the state of forest. Much valuable timber is produced here, and it is floated down the Medway in large quantities.

This is a great hop growing region. The hop fields were to be seen in very great numbers, and almost every farm had a large kiln for drying them attached to its other buildings. At this season of the year, the vines were of course withered and dead; the poles were formed into a species of stack leaning towards a common centre. The hop vines in almost every instance had been carefully collected and carried away, probably to the manure yard. In some of the hop fields I noticed that potatoes, beans, or cabbages were planted between the rows of hops. I should think that their growth could be but little, until the time came for the gathering of the hops and the removal of the vines.

Although, as I have mentioned, there are some imperfections in its cultivation, that part of the weald through which the railway passes is exceedingly beautiful, and we frequently regretted the diving into a tunnel, or deep cutting, just at the moment when some fine prospect was opening before us. The surface is undulating, and ridges of hills run across the country in various directions, their sides studded with little villages, each having its grey old church, with a square ivy-covered tower, and the superb seats of noblemen and gentlemen with which this region abounds. Though upon close examination defects are seen in the culture, yet a general view presented a picture of richness and luxuriance, realizing some of our brightest conceptions of the fruitfulness and plenty of "Merrie

England." The remarkable attractions of this region have often been noticed before by travellers. The wealden formation appears at the surface in this place alone over the whole extent of the British islands.

At Ashford we came again upon the green sand, which exhibited as usual a country of great fertility. It must not be supposed, however, that all the soils of this formation are invariably fertile. On reference to Prof. Johnston's Lectures, I find that between the upper and lower beds of green sand intervenes what is called the gault, about 150 feet in thickness, of an impervious, compact, blue clay. This forms in the counties of Cambridge and Huntingdon, "a thin, cold, clay soil, which when wet becomes as sticky as glue, is most expensive to cultivate as arable land, and naturally produces a poor, coarse pasture." It is necessary, therefore, not only to know the exact geological formation of a district, but to know also what strata of the formation are present. The green sand formation is celebrated for its fertility, and a person knowing this and being told that the soils of Huntingdon and Cambridge were upon that same formation, would very naturally suppose that those soils must be excellent, and on learning their true nature might be disposed to consider geology as after all quite useless for the purpose of guiding the practical man. This conclusion would be as hasty as the other, and they both show the danger of applying *general rules* without discrimination in particular cases.

Before reaching Folkestone, we once more found ourselves upon the chalk, which here shows itself in great thickness. Some of the cliffs expose nearly its whole extent, of 600 feet. One or two of them are between 500 and 600 feet almost perpendicular. The upper chalk soils naturally produce a short but excellent grass, peculiarly suited to sheep. We saw very great numbers of the South Downs, which seem the favorites in this section.

The railway from Folkestone to Dover, a distance of about five miles, is a remarkable monument of English enterprise and engineering skill. In this short distance there are no less than four tunnels, two of which are of great length. The Abbot's Cliff tunnel is 1,895 yards in length, and perforates the cliff at a depth of nearly 400 feet from its surface. This is connected with another tunnel 1,331 yards in length, by a sea wall 1,500 yards long, from 25 to 30 feet thick at its base, and from 50 to 70 feet high!

Dover itself is a most singular old place, just at the foot of a very high chalk-cliff, which seems almost to threaten and overhang some of the houses. As I sailed for Ostend on the night of my arrival, I was unable to see much of the place or its neighborhood. This I may perhaps accomplish at some future time. JOHN P. NORTON.

Utrecht, Dec. 11th, 1846.

ECONOMY IN FOOD.—Meat used cold is less nourishing, and does not go so far as when eaten warm; broths, stews, and hashes of meat, mixed up with vegetables, and flavored with parsley, chives, and onions, salt and pepper, are better and cheaper, and more nourishing and agreeable for the working man than plain meat.

THE CORN OR FLY-WEEVIL.—No. 2.

THE only sure ground, for defence and protection against the ravages of this weevil is, to take advantage of certain conditions of the crops it is liable to injure. Thus, the threshing and cleaning of wheat early in July, is almost a perfect safeguard; but if left unthreshed till winter or even till September, our crops would be nearly ruined. Yet, while this and other remedies have been long practised, the reasons have neither been known nor sought for, and of course have been but partial or accidental in their effects. If a few early ears of corn, that have been attacked by this insect, when gathered, are put away in a dwelling-house, or even in a close box, and remain through the next summer, every grain will usually be found perforated, and as many dead moths lying about, if there is no outlet for their escape. Or if a bunch of heads of wheat be taken from the field in harvest, and hung up in the house, and so remain until October, there will be found nearly as great destruction in the grains.

The most effective restrainer and destroyer of the fly-weevil is cold winter weather. Hence it is not known as a serious evil even in Delaware. In some parts of Maryland it has been absent for so long a time that it is almost forgotten; and then to reappear and become for a time very numerous and destructive. Their long absence and utter extinction was doubtless caused by a succession of severe winters, and their subsequent return to milder ones, which permitted the living of some of the larvæ of new immigrants coming every summer from the south. In lower Virginia, the weevil is almost always sufficiently plentiful to be very injurious, if not timely guarded against. But even here, the race is sometimes so nearly extinguished, that scarcely a moth is seen for the next year. In 1832, there was no damage observed near my residence in Prince George County, even when the wheat was threshed so late that the grain would have been nearly worthless in other years. The previous winters had been unusually cold, and the preceding (1830-31) was more severe than any for forty years. Hence, there is little to be feared from the ravages of the fly-weevil, in Pennsylvania, and still less in Massachusetts. In both cases mentioned in Dr. Harris' letter, the infested corn was kept in dwelling-houses where artificial warmth served to protect the lives of the few larvæ remaining in the grain during the winter, which permitted them to multiply through the next summer; for, if there were any weevils living in the spring, they could live and propagate nearly as well during the summer in Massachusetts as in Virginia. Flying moths may be wafted, in summer, by violent winds, hundreds of miles northward of their native and more congenial localities, and even may deposit their eggs in regions too far north for their progeny to live, except in a few cases where they are protected from the cold of winter. The effectual protection from weevils, furnished by cold, is not at the farmer's command; but he can often take advantage of other means that will prevent any considerable loss, and these may briefly be stated as follows:—

1. Corn may be kept for years *nearly* exempt from the attacks of the weevil by being housed in the shuck or husk. I have known it to be thus

kept through the third year, and much more free from injury than shucked corn is in August, and even the July succeeding the gathering. But this mode requires much more house-room and much additional labor, if adopted for the whole crop, or for that portion designed for sale; still, all required for bread at home, after the beginning of summer, may be well and ought to be kept in the shuck. The reason of exemption from the weevil is obvious. The few larvæ which may be in the corn, when housed in autumn, perish, because they are not able to escape from the compact bulk; and the same compactness prevents the access of laying moths approaching from other places. The grains exposed by the opening of the shuck, and those only of ears at the outside of the bulk, are all that can be reached or suffer from the weevils at all.

2. If, instead of keeping the corn in the ear, and shucked, as usual, until wanted for food or market, it were shelled in May, or before the coming out of the first summer broods of weevils, and kept in bins, or in bulk, there would be very little damage from all the succeeding generations. The first few moths would perish by confinement, except those produced in grains then on the surface of the bulk; and none others could deposit otherwise than on the surface of the grains. It is obvious that every change of the surface exposes to such injury a new layer of grain before untouched; and if left undisturbed, the surface grains will serve to shield all below them. When the corn is about to be sold, the weevil-eaten surface of the bulk may mostly be separated by strong fanning, or a previous raking off of all the surface corn, which may be reserved for stock-feeding.

3. Wheat, as soon as reaped, and perhaps sooner, is supplied from the granaries with a greater or less number of parent weevils to lay the earliest brood; and if it remains in the straw until September, and when threshed, is left in small bulk, or often stirred, nearly all the grains may be weevil-eaten; but if wheat be threshed and well-fanned early in July, in this region, there will be no weevils worthy of notice. The eggs previously layed, probably do not exist on the grains, but on the chaff or shuck, in which they are inclosed, and in hatching, the maggots must perish for want of food. As in the case with corn, the bulk of clean wheat is not exposed to subsequent layings except on the grains at the surface of the bulk. Even if the eggs had previously been attached to, and had remained with, the grains, instead of the chaff, as I infer to be the case, and then hatched in the interior of the bulk, the weevils could not escape from such close confinement, but would die without increase.

Seed wheat is usually kept spread out at least ten inches thick, in order to avoid any possible heating from remaining moisture, and by some farmers is frequently stirred, both of which conditions offer a greater opportunity for the depredations of these insects. Notwithstanding this, it is rare that they become numerous.

4. The bulking of early-threshed wheat, without separating the chaff, is also said to be sufficient protection from the weevil. Of this mode I have no

experience. Its efficacy must depend, not on the removal of the eggs, but on the stifling of the maggots, and the inability of either the maggots or moths to move in so close a mass.

EDMUND RUFFIN.

Marlbourn, Va., Nov., 1846.

LETTERS FROM THE SOUTH.—No. 4.

LOUISIANA is in many respects the most peculiar country on the globe. Its southern border rests upon the Gulf of Mexico, a vast inland sea, in latitude below 29° north. Its northern boundary reaches to 33° ; its eastern is the Pearl River, which separates it from Alabama, to latitude 31° , when the great Mississippi becomes the dividing line from the State that receives its name; while its western extremity is limited by the Sabine. The whole southern portion of this State, over 300 miles in length, by an average width of nearly 75, is exclusively an alluvial deposit. If to this be added similar deposits on the great river and its tributaries above, it presents a delta of comparatively recent formation, far surpassing any other within the same compass, in any quarter of the world. (a) Even those of the Nile, the Euphrates, and every other large river except the Ganges, are inconsiderable formations, in comparison with this magnificent encroachment on the ocean bed. And still the struggle is onward and irresistible. The vast body of water which debouches into the Gulf from several mouths, has its rise more than 5,000 miles above, by the course of the stream; and from its remotest source, and by every one of its innumerable branches, it is bringing down the ancient elevations, and spreading them over the tidal waters, the future and fruitful abode of civilized man.

Opposite the city of New Orleans, the trunk of the river has a breadth of 2,500 feet, with an average depth of 100, through which the water passes with a mean velocity of 2 feet per second. During a flood, this velocity is greatly augmented, and the water contains about 1-1000th part by weight and 1-2000th part by bulk of purely earthy matter, yielding a daily deposit of nearly 1,400,000 tons! The effect of this immense floating alluvion is seen in the gradual deposits and elevation of the low lands bordering the principal stream, and its numerous bayous and collateral branches, the accretions on the levée opposite the centre of the city (which have extended the bank several hundred feet within a few years), and the constant and rapid extension of the land at the mouth. The late Judge Martin states that "the old Balize, a post erected by the French in 1724, at the mouth of the river, is now (1827) two miles above it."

Everywhere on the banks of the passing stream, the land is highest; as the water, charged with floating matter, overflows its brim, and becomes comparatively stagnant, allowing a large portion of the solid material to subside; while the partially purified water passes onward through other channels to the Gulf. The result of this is to give a higher, cultivatable surface for some distance from the banks, while that portion of the land remote from them subsides into irreclaimable swamps, and frequently navigable lakes and lagoons. The natural elevation of the banks is not yet sufficient to

prevent the overflow from floods, and this object is secured by artificial levées, or embankments, on both sides, which extend in a continuous line for hundreds of miles on the main stream and its collateral channels. The slow accumulation and consequent elevation of the surrounding country from deposits, which would otherwise have been going forward, is thus arrested; and the present low, swampy surface must for ever continue unreclaimed, till embankments on the lower sides and the artificial removal of the waters, bring portions of it into a condition for future cultivation. Could the hand of civilization and modern improvement have been arrested for a few centuries longer, till nature had finished what she has so auspiciously commenced, large additions, and in a state far more fitted to reward their efforts, would have been subjected to their control.

The delta of the Mississippi is similar in its character, though on an immeasurably larger scale, to that formed around and below the junction of the Alabama and Tombigbee Rivers, and extending into Mobile Bay. Here, it is apparent that the waters of the bay once extended high up the stream, and embraced what is now the low, level banks on either side. The same is true of the mouths of the Pearl, Pascagoula, and other smaller streams, which lie between those larger rivers; and we are thus inevitably forced to the conclusion, that the inner channels which lie within the islands that stretch from Mobile to Lake Borgne, inclusive of this, and Lakes Pontchartrain, Maurepas, and the innumerable other smaller lakes and bayous which intersect the whole delta of the Mississippi, have been rescued from the tide waters within a (*geologically*) recent period. And there is scarcely a doubt that this former arm of the Gulf once extended up to Yazoo, the Red River, and some other of the smaller rivers, all of whose banks are intersected by numerous channels, through which the waters flow into the adjoining streams, as either has the ascendancy from recent floods on its upper branches. These interlocking with each other in every direction, and all at last terminating in the Gulf, separate the entire delta into a perfect net-work of islands. The land seldom rises beyond a few feet above low water mark, and from the banks gradually subsides into the swamps, lagoons, and lakes in the rear. The latter are sometimes deep, but are usually shallow, with the slightest declination from a level as they recede from the shore; while the shorter and more direct channels, through which the water flows to the Gulf with fearful rapidity in times of floods, are generally narrow and of immense depth, frequently exceeding 100 feet. The coast is usually a low receding line, so obscurely defined as to leave it questionable, for miles, where the water ends and the land begins.

The condition of the surface clearly indicates that *drainage* is the first and paramount object in the cultivation of the alluvial land of Louisiana. This has accordingly been practised to an extent far beyond anything exhibited in the United States. Large ditches running from the banks of the river and bayous to the swamps in the rear, intersected by numerous cross-excavations of a less depth, effectually drain off the surface-water before culti-

vation is commenced. But even these imperfectly effect the object designed, for wherever the porosity of the soil admits the passage of the water, its elevated head frequently raised high above the level of the earth, presses through all its interstices and brings to the surface an excess of moisture which is fatal to the highest success of the crop. This is the more to be deprecated, as the floods are most frequent from May to July, when the crops are on the ground, the necessary consequence of the long time required by the freshets in the remote tributaries in reaching their ultimate outlets.

It would seem, from a superficial glance at the subject, that underdraining by tiles; laid as deep as drainage can be effected, communicating with the main surface drains, would be the most effectual method of removing the surplus water. These being laid below the reach of the plow, and thus neither occupying the surface nor impeding cultivation, could be placed sufficiently near to accomplish the purpose effectually. If to this improvement could be added dykes or levées on the lower sides, pierced at proper intervals by outlets for the passage of the water when it would thus admit of its escape; or when from its rise on the lower side, which sometimes occurs, this is impracticable, then by closing the outlets and resorting to the use of a steam-engine, it can be artificially removed. The object seems attainable in no other way.

This improvement would justify the use of the subsoil plow in all soils, and with great advantage to the crop. Even without thorough draining, it has been found of great benefit wherever the subsoil is porous and admits an escape of the surplus water; but in particular formations, where an adhesive clay prevents its ready drainage, and it thus accumulates in the loosened earth below, a positive injury has been found, here as elsewhere, to follow its use. Although this plow has been but recently introduced here, many planters have given it a practical trial, and the general result, so far as coming within my notice, has been decidedly favorable to its general introduction and use.

There is a manifest and increasing attention to the subject of introducing new and improved agricultural implements, among the most intelligent planters in this section, and such seem disposed to give them a fair trial. The want of personal skill and attention on the part of many proprietors, however, renders this trial and their unquestionable adaptedness to the object proposed, less satisfactory to them than their intrinsic merits fairly entitle them to. Among these improvements, none have been so conspicuous as those in the plow, the first and most important of the agricultural tools; and the introduction of better machinery for expressing the juice of the cane, and its more economical and perfect granulation. The coarse, ill shapen, imperfectly made plow of former years, is rapidly giving place to a much neater, more perfectly made, and enduring implement, that will more effectually accomplish the object, and at a greatly reduced expenditure of team labor; while the recent improvements in sugar making, when fully perfected and generally adopted, are destined immeasurably to increase the product and swell the profits of the cultivation of this

leading and important staple of the wide spread delta of the Mississippi. R. L. ALLEN.

New Orleans, Feb. 1st, 1847.

(a) The extent of territory periodically inundated by the river Parana is estimated at 36,000 square miles.

ANNUAL MEETING OF THE NEW YORK STATE AGRICULTURAL SOCIETY.

The annual meeting of this Society was held in the Assembly Chamber in Albany, on the 20th of January last. Our reporter promptly forwarded us a full account of the same at the time; but by the delay of the Express in not delivering it immediately on his arrival in this city, it came to hand too late to be inserted in our last number.

J. M. Sherwood, of Cayuga, the President, assumed the chair, and Luther Tucker acted as Secretary.

Mr. Enos offered a resolution appointing a committee to request the Legislature to continue the appropriation to the State and County Societies, cut off by the new Constitution.

Benjamin Enos, of Madison; B. P. Johnson, of Oneida; and Luther Tucker, of Albany, were appointed said committee.

Mr. Allen, of Erie, called up the resolution of last year, declaring ex-Presidents *ex officio* members of the Executive committee.

After some debate, the resolution was unanimously adopted.

Mr. Allen remarked that the Constitution of the Society required the election of one Vice President from each Senatorial district. The new State Constitution had increased the Senate districts, and he gave notice of an amendment of the Constitution of the Society, to appoint one Vice President from each Judicial Circuit.

Mr. McIntyre, the Treasurer, read his report, showing the following receipts and expenditures for the past year:—

RECEIPTS.

Balance per last report,.....	\$546.21
Memberships at annual meeting,.....	137.00
William Buell, life membership,.....	50.00
Memberships at various times,.....	10.00
Dividend on Mohawk bonds,.....	105.00
Interest on bond and mortgage,.....	70.00
Receipts at Auburn Show,.....	4,333.17
Joseph Fellows, for Pultney estate,.....	50.00
State payment,.....	700.00
Interest on Mohawk bonds,.....	105.00
Transactions sold,.....	5.00
Interest on bond and mortgage,.....	70.00
	\$6,181.38

PAYMENTS.

Premiums paid,.....	\$1,599.43
Expenses at Auburn,.....	710.82
Salaries paid,.....	706.00
Sundry expenses,.....	630.71
Invested in bond and mortgage,.....	2,000.00
Balance in hand,.....	534.42
	\$6,181.38

The following gentlemen were then elected officers for the ensuing year:—

President—George Vail, of Troy; *Vice Presidents*, 1st District—Wm. T. McCoun, New York; 2d, John A. King, Jamaica; 3d, C. N. Bement, Albany; 4th, Samuel Cheever, Stillwater; 5th, O. C. Chamberlain, Richfield Springs; 6th, Eli C. Frost, Catherine; 7th, H. S. Randall, Cortlandville; 8th, W. Buell, Rochester.

Recording Secretary—Luther Tucker, Albany.

Corresponding Secretary—Joel B. Nott, Albany.

Treasurer—J. McD. McIntyre, Albany.

Executive Committee—William A. Beach, Saratoga Springs; Joshua T. Blanchard, Saratoga Springs; Luther Bradish, New York; G. V. Sackett, Seneca Falls; Thos. J. Marvin, Saratoga Springs.

Mr. Bradish on learning his election resigned, and A. Stevens, of New York, was elected in his place. Mr. Tucker also resigned, and B. P. Johnson of Oneida was elected in his place.

Mr. L. F. Allen, chairman of the committee appointed last year on fruits, made a report in part.

Saratoga Springs was recommended as the place for holding the next annual show. A most unwise recommendation, in our humble judgment, as it can only partially accommodate the immense concourse of people who are certain to be assembled on the occasion. Troy, we do not hesitate to say, would have been an infinitely better selection, as it has ample accommodations for fifty thousand strangers; and at least that number would surely have been present, had it been located there.

Mr. Enos, of Madison, from the committee to memorialize the Legislature for a renewal of the law in aid of Agricultural Societies, reported a memorial which was adopted, and directed to be presented to the Legislature.

On motion of Mr. Allen, of Erie,

Resolved, That \$50 be appropriated, under the discretion of B. P. Johnson, Chairman of the Cheese Committee, for the purpose of obtaining the documents appertaining to the sixty cheese dairies of Herkimer County, as exhibited at the State Cattle show at Utica, in 1845.

On motion of Mr. Wadsworth, of Livingston,

Resolved, That the Executive Committee be directed to offer premiums for the present year, to the amount of \$2,500, exclusive of books belonging to the Society.

2. That \$1,500 be appropriated for the expenses of the Society for the year 1847, other than for premiums, and that the authority of the Treasurer to make payments from the treasury, upon the order of the Executive Committee, be limited to that amount.

Mr. Allen of Erie, gave

Notice that a resolution will be offered at the next annual meeting of the Society, so to amend the constitution, that a nominating committee of one from each Senatorial District of the State, shall be selected from the members of the Society present from each Senatorial District, who shall report the names of proper persons for the officers of the society for the ensuing year; and that no person shall be elected to any office of the society who is not a member thereof.

Evening Session, Jan. 21.

The Secretary read the list of premiums awarded on the reports of the several awarding committees, as follows:

On Cheese Dairies and their management—Newbury Brown, Warsaw, Wyoming County, 1st Premium, \$50.00—400 lbs. to each cow, in a dairy of 40 cows.

Mr. and Mrs. Wm. Otley, Phelps, Ontario County, 2d Premium, \$30.00—at the rate of 400 lbs. per cow, in a dairy of 8 cows.

On Butter Dairies—B. H. Hall, New Lebanon, Columbia County, 1st Premium, \$25.00.

Indian Corn—Charles W. Eells, Kirkland, Oneida Co., 1st Premium, \$15.00—123 1-2 bushels per acre, at 56 lbs. to the bushel.

Benj. Enos, DeRuyter, Madison County, 2d Premium, \$10.00.—111 bu., 52 lbs. per acre.

Robert Eells, Westmoreland, Oneida County, Vol. Transactions.—103 3-4 bushels per acre.

Peas—Amos Miller, Vernon, Oneida County, 2d Premium, \$10.00—47 bushels per acre.

On Farms—Sets of Society's Transactions were awarded to James Callanan, New Scotland, Albany County, and to James Van Siclen, Jamaica, Long Island.

Prize Essays—Extirpation of Canada Thistles, Ambrose Stevens, New York, \$10.00. Sereno E. Todd, Lake Ridge, Tompkins County, set Transactions.

Experiments on Indian Corn—J. F. Osborn, Port Byron, Cayuga County, \$20.00.

Carrots—Wm. Wright, Vernon, Oneida County, 1st Premium, \$10; 909 bushels on 1 27-100 of an acre, at an expense of \$25.76.

William Risley, Fredonia, Chautauque County, 2d Premium, \$5.00—1590 1-2 bushels on 1 3-8 of an acre, at an expense of \$109.25.

Sugar Beets—J. F. Osborn, Port Byron, Cayuga County, 3d Premium, Vol. Transactions—774 bushels on 1 acre and 15 rods.

Designs for Farm Dwellings—Mrs. J. M. Ellis, Onondaga Hill, Onondaga County, Premium \$15.00.

Barley—Calvin Pomeroy, East Bloomfield, Ontario County, 1st Premium, \$10.00—48 1-4 bushels per acre on the whole crop.

Samuel H. Church, Vernon Centre, Oneida County, 2d Premium, \$5.00—44 1-4 bushels per acre.

E. C. Bliss, Westfield, Chautauque County, 3d Premium, Vol. Transactions—38 3-8 bushels per acre.

Spring Wheat—Robert Eells, Westmoreland, Oneida County, 2d Premium, \$10.00—20, 42, 60 bushels per acre.

Oats—Nathaniel S. Wright, Vernon Centre, Oneida County, 1st Premium, \$10.00—75 1-4 bushels per acre for 13 acres.

Robert Eells, Westmoreland, Oneida County, 2d Premium, \$5.00—77 bushels per acre for 1 acre 37 rods.

Timothy Seed—E. C. Bliss, Westfield, Chautauque County, 1st Premium, \$10.00.

Flax Culture—E. C. Bliss, Westfield, Chautauque County, 1st Premium, \$5.00—best 1-2 acre.

The President of the Society, J. M. Sherwood, then delivered the annual Address, upon the conclusion of which,

On motion of Mr. Wadsworth,

Resolved, That the thanks of the Society be tendered to the President, J. M. Sherwood, for his valuable services to the Society during the past year, and for his appropriate and interesting Address, and that he be requested to furnish a copy of his Address for publication in the Transactions of the Society.

Mr. Chandler, of New York, called up the resolutions introduced yesterday by Mr. Viele, on the subject of Agricultural Education, which, after a very interesting and prolonged discussion, in which the mover, Mr. Chandler, Messrs. Clark, Beekman, Allen, Marks, Johnson, Cheever and Wadsworth took part, were unanimously adopted.

Twenty-five copies of the American Shepherd were received from Mr. Morrell and the Messrs. Harper, of New York; and a resolution of thanks was passed, to be communicated to the donors.

Messrs. Prentice, Tucker, and Bement, were appointed a committee to report on the Premium List at the next meeting.

Resolved, That weekly meetings of the friends of agriculture, for the discussion of agricultural subjects, be held at the Capitol, during the session of the Legislature; and that Mr. Howard, Mr. McIntyre, and Mr. Bement, be a committee to make preparations for the meetings.

The Recording Secretary was directed to employ a competent Reporter for these meetings.

A communication was received from D. B. Stockholm, of Ithaca, on the preparation of a manure called, "*Chemical Guano*," which was referred to Messrs. Johnson and Bement.

Boys' Department.

A CHAPTER ON GRASSES.—No. 3.

It is said that of all the Cerealia, or cultivated grains, so valuable to man, as furnishing the chief material for bread, the origin of not one of them is known with any degree of certainty, if we except maize, or Indian corn. Recent information seems to prove this magnificent plant to be indigenous to South America, from whence a curious variety has been obtained, in which each grain is enveloped in *glumes* or husks, as in other grasses; presenting, when an immature ear is husked, a close resemblance to an ear of beardless wheat, of a gigantic size. This, the Indians assert, still grows wild in the humid woods of the province of Paraguay. [It is said that the same kind of corn still grows wild from California to Brazil.]

Among the earliest records of the manners and customs of nations, the cultivation of grain is often alluded to, or distinctly mentioned. Abraham set bread before the angels who honored his tent with their heaven-directed visit. Egypt was desolated by famine in consequence of the failure of the crops of grain for seven successive years; from the devastating effects of which Joseph saved the inhabitants of that and the adjacent countries by his superhuman wisdom, which enabled him to foretell events, and his prudence in storing up the surplus corn of the seven preceding years of unexampled plenty, when the earth brought forth by "handfuls." In Europe, all bread stuffs are indiscriminately called *corn*, a name which in this country is given to maize alone. Ruth gleaned in the fields of Boaz—that prince of farmers—during both the wheat and the barley harvests.

The geographical distribution of grain varies in different countries, depending not merely on climate, but also on industry and civilization. Within the northern polar circle agriculture is found only in a few places—the polar limit being in Lapland, where it reaches the 70th degree of latitude. In Siberia wheat scarcely arrives at perfection at 60°, and in Kamschatka there is none. On the north-west coast of America, between the 52d and 57th degrees, barley and rye come to maturity, while on the eastern or Atlantic side the limit is 52°.

The grains which thrive farthest north in Europe are barley and oats. On the southern border of this limit, rye is associated with them, and then becomes the prevailing grain—as in the south of Sweden and Norway, Denmark, the north of Germany, and a small part of Siberia. In the southern part of this zone wheat is also found, and there barley is chiefly used as food for horses, and in the manufacture of malt liquors, though man still makes it a part of his daily sustenance. Then follows a zone in Europe and western Asia where rye disappears, and wheat almost exclusively furnishes bread; as in the south of France, and of Germany, Hungary, the Crimea and Caucasus, and also the middle of Asia. Here the vine is found, and wine supplying the place of beer, consequently barley is little raised, or only as food for horses and mules. Next follows a district where wheat still abounds, but where maize and rice are frequently grown. To this belong Portugal, Spain, southern France, Italy,

Greece, Persia, Arabia, southern India, Egypt, and Barbary. At the southward of these countries, maize and rice supplant wheat, which is rarely seen, and only on high elevations. Within the torrid zone maize predominates in America; rice in Asia; and both, in nearly equal quantities, in Africa. Thus the earth may be divided into five zones, beginning at the equator. First, the zone of rice, then that of maize, next that of wheat, then rye, and north of all, barley and oats.

In making a scale of the intrinsic value of the different kinds of the cereal grains, they may be placed in the following order. First, wheat; second, maize; third, rice; fourth, rye; and fifth, barley and oats.

Among the various kinds which form the principal nutriment of the human family, and to the culture of which even civilization is attributed by ancient and modern writers, the first rank is universally given to wheat (*Triticum sativum*). The range of its culture is perhaps greater than that of any other grain, as it may be grown as far north as the 60th degree of latitude, and in the torrid zone, where, however, it will seldom form even an ear below an elevation of 4,500 feet above the level of the sea, owing to the great exuberance of vegetation, nor will it ripen seed above the height of 10,800 feet elevation, though much depends upon local circumstances. Some naturalists doubt if there is really more than one species of wheat, supposing that all, even the seven-eared Egyptian wheat, may be nothing more than well-marked varieties, which may be reduced by culture to the common kind. Where professors differ, I will not attempt to decide the question.

Wheat yields a greater proportion of flour than any other grain, and is also much more nutritive. Careful housewives say that seven pounds of wheat flour will make nine pounds of good bread.

Indian corn (*Zea mays*), in the torrid zone, will grow at the height of 7,200 feet above the level of the sea, but thrives best and predominates between 6,000 and 3,000 elevation; below that, it is associated with a vegetation peculiarly tropical. Its geographical range is from the equator to the most northern parts of the United States, or wherever the heat of summer is intense, though it be of short duration. One variety, called *Canada corn*, from its usual place of growth, does not often produce a stalk more than four feet high; while the common southern variety is more frequently seen from ten to twelve, or even eighteen feet high. It is now generally acknowledged to be a native of this continent, as before stated, and as additional reasons for the assertion, we may add the well known fact that its culture did not attract notice in Europe, Asia, or Africa, until after the voyages of Columbus had unfolded the treasures of the New World. It was certainly unknown to the ancient Greek and Roman writers, as no memorial of it is to be found among the newly-discovered wonders of ancient Egypt, and it is not mentioned by the early travellers who visited China, India, and other parts of Asia and Africa, though their descriptions of the natural productions of the countries through which they passed, were extremely minute. And lastly, it was found in extensive cultivation on the banks of the Delaware, in New Jersey and Delaware, where the

Indians had large fields of it and pumpkins, as early as the year 1627, when the Swedes first landed on this coast.

Farmers' boys need hardly be told that every part of this beautiful plant is valuable as food for man or animals. When the corn is "in tassel," the large pithy culms abound in a rich saccharine juice, from which a good syrup can be made; but in this highly favored land of plenty, where the sugar-cane is almost naturalized at the south, and the sugar maple yields a perennial supply at the North, we need not resort to so expensive a substitute for so cheap a luxury. The same sweet juice pervades the whole herbage, which is therefore a favorite and nutritious food for cattle. Everybody knows how highly the immature kernels on the ear are prized when served up as "hot corn," both as a delicacy and a staple dish for the table. And is not every farmer's kitchen furnished with a "mush-pot," for boiling mush, as we southrons call the "*hasty pudding*" of our "down east" brethren? The methods for cooking corn meal are quite "too numerous to mention;" and are of all grades of goodness, from the "hoe-cake," made of meal and water only, and baked by the negro on his hoe, to the Indian pudding, that is rich enough to tickle the palate of an alderman. E. S.

Eutazah.

Ladies' Department.

CULTURE OF FLOWERS.

FLOWERS should be cultivated in every garden, especially if near the house; in which case, if not in every other, the garden certainly ought not to be limited to the production of vegetables merely, but should contain the ornamental as well as the useful. Too much time and space must not, however, be devoted to flowers; and we will only mention a few of the more hardy sorts, which may be easily managed, and which will be pleasing at all seasons of the year.

Climbing over the porch, or around the door, you may have a few of the hardy tall-growing roses, for ornament. Common monthly or China roses may cover the corners of your house, or be trained under and along the sides of the windows, mixed with laurestinus, arbutus, and pyracantha; nor let the honeysuckle be wanting in some corner, twisted round a tree, or hanging over a corner of the wall.

Have plants of the hundred-leaved, moss, cabbage, variegated, and common blush roses, in the corners of your garden nearest your house; and in the borders, plant snowdrops, crocuses, red and yellow tulips, white and yellow bachelors' buttons, primroses, anemones, narcissus, cowslips, polyanthus, white and yellow lilies, wallflowers of different colors, dahlias, hollyhocks, jonquils, violets, the sweet-scented clover, mignonette, and any other annuals you like or can procure.

If you edge your flower-borders with the garden daisy, and the hardy sorts of auriculas, there will be few days in summer or autumn in which some pretty little flower will not peep forth, and afford you pleasure in looking at it. A holly (an American one North, or a European South), box, laurel, or rhododendron, will do well under shade, and

their perpetual green will refresh your eyes in winter; and be assured that such objects as a garden presents, if it be neatly kept, are always valuable; for they do the heart good, and impart a kindly tone of feeling and refinement, and serve to keep out evil thoughts.

Encourage your children in a taste for flowers. Teach them to plant the seeds and roots, and to weed and keep them clean, and train and cultivate them; and the taste will remain with them when they grow old. It is on such things as these, in the recollection of bygone days, that local attachment is founded, making us delight to revisit the scenes of our childhood, and bringing back the wanderer from distant climes, to seek a last resting-place in the home of his fathers.

FEMALE CLOTHING.

THERE is such a variety of articles for female dress, that it may often be doubtful which is best adapted for any particular situation; but for outer garments, woollen is in general to be preferred to cotton, which, although gay looking and cheaper at first, sooner loses its color, and does not wear so long. Red and blue cloaks, and dark checkered woollen shawls, are comfortable and well looking; and a bonnet is indispensable for every woman who wishes to preserve her good looks, and avoid premature wrinkles. Everything beyond what is necessary for cleanliness and comfort, and for neatness and decency of appearance, should be avoided in dress, whether it be of male or female.

For the dress of children, warmth should chiefly be studied. An economical wife, who is a good needle-woman, will often manage to clothe her children neatly, from parts of her own and her husband's old garments; and her little ones may thus be decently clothed at a trifling expense. This, however, will much depend upon her skill and ingenuity, and it cannot be too strongly recommended to every female, whether wife or daughter, to pay attention to neatness and cleanliness in the children's persons and clothing, as well as in her own.

The old proverb says, that "a stitch in time saves nine;" and wherever attention is manifested in the careful repairs of the family clothing, we may be assured that comforts of other kinds will not be wanting within doors. An old, but clean and neatly mended child's dress, or husband's working garment, bespeaks the thrifty housewife, and implies habits the very opposite of those indicated by dirty or ragged clothes, which are a sure mark of the wife's indolence and neglect. Z.

TRAINING OF CHILDREN.—The instruction of your children cannot commence too early. Every mother is capable of teaching her children obedience, humility, cleanliness, and propriety of behavior; and it is a delightful circumstance that the first instruction should thus be communicated by so tender a teacher. It is by combining affectionate gentleness in granting what is right, with judicious firmness in refusing what is improper, that the happiness of children is promoted, and that good and orderly habits are established. If children are early trained to be docile and obedient, the future task of guiding them aright will be comparatively easy.—*Nicholls.*

FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Cambria we are in receipt of our foreign journals to February 4th.

MARKETS.—*Ashe*s an advance of 1s. *Cotton* a decline of full $\frac{1}{2}$ to $\frac{3}{4}$ d. per lb. in consequence of the high price of provisions and limited sales for cotton yarns and goods. Stock on hand at Liverpool on the 1st of February, 455,440 bales, against 877,090 same time last year. *Flour* has fallen 4s. per bbl. *Indian Corn* 4s. per quarter. There were large stocks on hand of Flour and Grain of all kinds. *Beef* and *Pork* were bringing extreme prices. *Lard* an advance of 6s. per cwt. *Cheese* an advance of 1s. per cwt. *Guano* an improved demand and sales very extensive. *Rice* in good request. *Sugar* was in great request in consequence of government allowing it to be used in distilleries. *Spirits Turpentine* a trifling decline. *Tar* firm. *Tallow* the same. *Tobacco* a slight depression in the middling class of strips. *Wool* from the United States was in fair demand, and we are glad to notice that it is getting into more general use and gaining favor with British manufacturers.

Money.—The Bank of England has raised the rate of discount to 4 per cent., which has had a depressing effect in the market. This is one reason of the slight decline in flour and grain; men with small means being forced to sell. The market was gradually recovering.

Exportation of Specie to America.—The Cambria takes out over \$2,000,000, chiefly in silver. Upwards of \$3,000,000 were exported last month.

Famine was prevailing to a great extent in Ireland, Scotland, France, and many parts of Germany and Hungary. Thousands of poor people were dying from this cause, and the diseases incident to it.

Suspension of the British Corn and Navigation Laws.—An act recently passed by the British Parliament effects an abandonment of the duty of 4s. per quarter levied on corn, until the 1st of September of the present year. Another effects the partial abandonment of the navigation laws, which prevent the introduction into Great Britain of any produce but that of the country to which the ship that carries it belongs, by suspending their operation so far as regards corn, until the first of September next.

The estimated value of the loss of the potatoe crop in Ireland is \$100,000,000.

Death of William Youatt.—We are pained to learn the death of this eminent man. He committed suicide in consequence of unfortunate speculations in railroad stocks. He was in his 70th year. He stood preëminently high as a veterinary surgeon, and was the author of that admirable series of works on the Horse, British Cattle, the Sheep, and the Dog, published by the Society for the Diffusion of Useful Knowledge. As an author and a surgeon his place will not be easily supplied.

AMERICAN PROVISIONS.—The following is a table of the importations of American provisions into Liverpool since the year 1843, when the trade was opened, to the end of the year 1846, just closed:—

IMPORTS FROM 1ST JAN. TO 31ST DEC.

	BEEF.		PORK.		CHEESE.		LARD.	
	Tc's.	Brls.	Brls.	Casks.	Bxs.	Brls.	Kgs.	
1843.....	3498	5005	2956	4500	19093	23550	24706	
1844.....	9300	3354	7939	5287	18245	20027	28795	
1845.....	15573	3337	7930	5017	14445	9346	56324	
1846.....	25913	9218	14871	4049	58742	21635	65531	

The supplies of American provisions in Liverpool, on the 31st December, were smaller than usual. They amounted to 2750 tierces of beef; 5300 barrels of pork; 440 tons of cheese, and 420 tons of lard. The quality of all these kinds of provisions has greatly improved since they began to be imported, and prices have risen in proportion. American beef has risen from 65s. to 80s. a tierce, and from 75s. to 85s. a barrel since the importations of 1842-3; pork from 28s. and 36s. a barrel to

62s. and 68s.; cheese from 48s. and 51s. to 50s. and 53s.; and lard from 41s. and 42s. to 45s. and 46s.

Comparative Consumption of Food in England and France.—The actual consumption of butcher-meat in England for every person is as follows:—

A rich family in London, consisting of husband, wife, six children, and ten servants,	lbs.
-	370.5
A house of business in which there are 114 persons of both sexes,	-
-	306.9
A hospital, containing at least 290 children of both sexes, and where food is not given at discretion,	-
-	160
Mean,	-
-	279.13

In France, it has been ascertained that the mean annual consumption of a family in Paris, which, in 1789 was estimated at 148lbs., was no more from 1827 to 1837 than - 107 $\frac{1}{2}$

Making the mean annual consumption of a London family exceed that of one in Paris by - 171.88

Pruning Forest and Ornamental Trees.—Pruning is an operation which by some is carried too far, and by others entirely neglected. When substituted in place of thinning, it is carried to an injurious and unprofitable extent, and when neglected altogether, many trees will only assume the habit of shrubs. It is not a little amusing to observe the expedients resorted to to remedy the evil of close planting, and to put off till a more convenient season, the very necessary operation of thinning, which, if done in time, is the only effectual remedy. One of these shifts, and a most absurd one it is, is cutting off the whole of the lower branches, leaving only a few of the upper ones to form a small top, as if nature had committed a great error in furnishing the plants with a superfluity of resources by which to draw to them that nourishment necessary for their existence. This is a very gross error when practised even on hardwood trees, as it must of necessity retard their growth, and cause them to make unnecessary efforts to restore what they have lost by pushing out shoots from their stems near the parts where the branches were attached to. This of itself is sufficient to teach any reflecting person that the practice is wrong. But when adopted on resinous plants, such as the fir tribe, it is most destructive, as they are deprived by nature of the means of restoration, and hence the wounds remain unhealed for years, and in many cases as long as the plants survive.

Pruning can only be practised with propriety and advantage on hardwood trees, and should be done at an early stage. Little or no pruning should ever be necessary in a plantation after 15 years' growth. In performing this operation, attention should be paid to the natural habit or form of the tree, and thus to assist, but not to thwart nature. It is absurd to attempt to make an oak, or any other round-headed tree, assume the habit of an erect growing plant, such as the Lombardy poplar. It is therefore difficult to lay down a general rule, and much must depend on the judgment of the operator. It may be remarked, however, that all trees intended to grow to timber should be set off with one stem, and every rival to the top or leading shoot should be cut off, and any side shoot or branch acquiring greater strength than the stem itself, and drawing away from it an undue proportion of sap, should also be taken away. A few of the lower branches may be cut off as the trees advance, but this must be done with caution. If this is properly attended to, and judiciously done when the plants are young, and it can almost all be done with the common pruning-knife, and at a mere trifling expense, the trees in general and under ordinary circumstances will have attained sufficient length of stem in 15 years.—*Gardeners' Chronicle.*

Editor's Table.

SIR HENRY.—We have received a circular from Messrs. Lucius Sanderson & Co., of West Milton, Vermont, informing us that this fine, well-bred horse, will stand at Burlington the ensuing season. Sir Henry has taken several premiums at the annual shows of the N. Y. State Ag. Society. Celebrated as the Vermont horses already are, we think if duly patronized, this superb horse will leave a stock behind which will add still more to their reputation as roadsters.

ANGER FROM DOGS LICKING THE HANDS.—In the early stages of rabies (madness) the attachment of the dog towards his master or associates seems to be rapidly increased. He is continually desirous of licking the hands or face, or any part he can get at. A healthy dog should never be permitted to indulge this disgusting habit. In one affected with rabies, the virus, or poison, can scarcely fail to be deposited in any abraded or wounded surface; and in that case, there is just as much danger as if the animal had inflicted a wound with his teeth.

PENSION TO MRS. LOUDON.—The British government has conferred a life-pension of £100 (\$500) upon Mrs. Loudon, as a small acknowledgment of the value of her late husband's writings upon agriculture and horticulture. Our government can pension men and their widows by the thousand for volunteering to kill poor Mexicans, who never did them any harm; but if it were called upon to pension a single individual who had been of great service to his countrymen in the cause of agriculture, the idea would be scouted by a large majority in both houses of Congress, as unconstitutional.

THE AMERICAN POULTERER'S COMPANION; A Practical Treatise on the Breeding, Rearing, Fattening, and General Management of the Various Species of Domestic Poultry, with Illustrations and Portraits of Fowls, taken from Life. By C. N. Bement. New York: Harpers, pp. 380, 12 mo. Price \$1.00. When this admirable work first appeared, about two years since, we prophesied that it would be very popular and have an extensive sale. A fifth edition, now before us, fulfils our prediction, and shows that a good American work on this important branch of domestic economy was much wanted. To those who take an interest in this class of bipeds—who is there that does not—at least so far as eating their flesh, eggs, custards, &c., are concerned?—we heartily repeat our commendation of Mr. Bement as their guide, and emphatically assure them, that he has written the best book on poultry ever published in the United States.

We close this notice with the following *jeu de mots* from our jocosely contemporary of the Philadelphia North American, who, though no *rooster*, we opine has more than once ascended the *loft*. "The author of this book is evidently no *chicken*. He takes up the subject *ab ovo*, and from his study and experience, is *cock-sure* of the correctness of all his facts and principles. The performance is a decided *feather* in his cap, and we hope that he may find the public ready to *shell* out in testimony of his success. It would be, to say the least, *foul* play if so much labor should not have its reward, and, so far as we are concerned, we feel it our duty to *spur* the attention of our country friends to the author's merits. Without meaning to tread on political ground, we are not sure but he has abundant reason to *crow*."

THE IOWA FARMER'S ADVOCATE.—This is a neat quarto of 16 pages, published monthly at Burlington, by James Tizzard & Co., at \$1.00 a year. One of the most certain evidences of an increasing interest in agriculture, is the multiplication of journals devoted to its improvement. We heartily welcome the appearance of all such, more especially when they spring up in the newly settled States. H. Gates, editor.

THE PHILOSOPHY OF MAGIC, Prodigies, and Apparent Miracles. From the French of Eusebe Salvarte. With Notes Illustrative, Explanatory, and Critical. By Anthony Todd Thomson, M.D. 2 vols. 12mo. pp. 320 each. New York: Harper & Brothers. Price \$1.00. The object of the author of this work was to explain the power and displays of the priests of olden times over the elements of nature, whose control he conceived could not be maintained without operating on the superstitious feelings of the multitude; but, like most promulgators of a theory, he attempted to extend the subject too far by explaining not only the apparent miracles of Polytheism, but even those which, in a great degree, form the foundation of a Christian faith. For these reasons, the English editor felt it his duty to expunge from the pages of these columns every passage referring to the Bible; and at the same time, to change somewhat the title of the work, by substituting the words "apparent miracles" for the word "miracles."

This work abounds in information of the most entertaining character, and cannot fail to be read with interest as well as profit, by the artisan, the chemist, the student of nature, the historian, and the divine.

THE SPANIARDS AND THEIR COUNTRY. By Richard Ford, Author of the Hand-Book in Spain, Part I. New York: Wiley & Putnam, pp. 166, 12mo. Price 37 cents. This little work, which forms the 84th No. of the Library of Choice Reading, is written in a pleasant, graphic style, and will serve as an excellent guide book to those who may have occasion to travel through the wild and romantic scenery of this rich, though unfortunate country, and will impart an accurate knowledge to the general reader of the language, costume, habits, and local character of its people.

ENGLISH SYNONYMS, Classified and Explained; with Practical Exercises, designed for Schools and Private Tuition. By G. F. Graham; with an Introduction and Illustrative Authorities. By Prof. Henry Reed, of the University of Pennsylvania. New York: D. Appleton & Co., pp. 344, 12mo. Price \$1.00. The English language deserves better care and more sedulous culture than is generally bestowed upon it; and when properly understood will enable one to give utterance to truth in simple, clear, and precise terms, and to express his thought and feelings in words that mean nothing more and nothing less. We know of no work better calculated to do this than the one before us, which will not only teach us how to escape the evils of vagueness, obscurity, and perplexity, but the manifold mischiefs of words used thoughtlessly and at random, or words used in ignorance and confusion.

THE HORSE'S FOOT, and How to Keep it Sound. With Illustrations. By William Miles. From the 3d London Edition. New York: D. Appleton & Co., 200 Broadway, pp. 70. Price 25 cents. Price of the English edition \$2.50. Few subjects of animal economy are less understood than that of the conformation, diseases, treatment, and shoeing of the horse's foot. It is with no little pleasure therefore that we announce the republication of the work before us, written by one who is intimately and practically conversant with the matters in question. In the treatment of his subject the author has shown his good sense by discarding all the technical terms which it was possible to avoid. With a view of showing its high value we shall hereafter give some extracts from Mr. Miles's work.

THE FARMER AND MECHANIC; Devoted to Agriculture, Mechanics, Manufactures, Science, and the Arts: New York: W. H. Starr, 135 Nassau st. We acknowledge the receipt of the back volumes of this periodical, and the numbers of the present year, as far as published. The work is issued weekly in an improved form, at \$2.00 a year. From the mass of mechanical and other information it contains, it is highly worthy of success.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, FEBRUARY 24, 1847.

ASHES, Pots,.....	per 100 lbs.	\$4 87	to	\$5 00
Pearls,.....	do.	5 50	"	5 62
BALE ROPE,.....	lb.	5	"	6
BARK, Quercitron,.....	ton	35 00	"	40 00
BEANS, White,.....	bush.	1 25	"	1 75
BEESSWAX, Am. Yellow,.....	lb.	26	"	30
BOLT ROPE,.....	do.	11	"	12
BONES, ground,.....	bush.	40	"	55
BRISTLES, American,.....	lb.	25	"	65
BUTTER, Table,.....	do.	16	"	25
Shipping,.....	do.	9	"	15
CANDLES, Mould, Tallow,.....	do.	9	"	11
Sperm,.....	do.	25	"	38
Stearic,.....	do.	20	"	25
CHEESE,.....	do.	5	"	10
COAL, Anthracite,.....	2000 lbs.	6 00	"	7 00
CORDAGE, American,.....	lb.	11	"	12
COTTON,.....	do.	9	"	13
COTTON BAGGING, Amer. hemp,.....	yard,	11	"	14
FEATHERS,.....	lb.	25	"	34
FLAX, American,.....	do.	7	"	8
FLOUR, Northern and Western,.....	bbl.	6 38	"	7 00
Fancy,.....	do.	7 00	"	7 25
Southern,.....	do.	6 38	"	6 75
Richmond City Mills,.....	do.	7 25	"	7 50
Buckwheat,.....	do.	4 00	"	4 25
Rye,.....	do.	5 00	"	5 25
GRAIN—Wheat, Western,.....	bush.	1 60	"	1 75
Southern,.....	do.	1 55	"	1 60
Rye,.....	do.	95	"	1 00
Corn, Northern,.....	do.	95	"	1 00
Southern,.....	do.	88	"	95
Barley,.....	do.	82	"	83
Oats, Northern,.....	do.	46	"	50
Southern,.....	do.	42	"	44
GUANO,.....	do.	2 50	"	3 00
HAY, in bales,.....	100 lbs.	56	"	62
HEMP, Russia, clean,.....	ton.	240 00	"	245 00
American, water-rotted,.....	do.	105 00	"	185 00
American, dew-rotted,.....	do.	75 00	"	125 00
HIDES, Dry Southern,.....	do.	9	"	10
HOPS,.....	lb.	9	"	12
HORNS,.....	100.	2 00	"	10 00
LEAD, pig,.....	do.	4 31	"	4 38
Sheet and bar,.....	lb.	42	"	54
MEAL, Corn,.....	bbl.	5 00	"	5 12
Corn,.....	hhd.	30 00	"	22 60
MOLASSES, New Orleans,.....	gal.	35	"	37
MUSTARD, American,.....	lb.	16	"	31
NAVAL STORES—Tar,.....	bbl.	1 81	"	2 00
Pitch,.....	do.	88	"	1 06
Rosin,.....	do.	50	"	60
Turpentine,.....	do.	2 50	"	3 00
Spirits Turpentine, Southern,.....	gal.	38	"	43
OIL, Linseed, American,.....	do.	77	"	80
Castor,.....	do.	75	"	80
Lard,.....	do.	75	"	80
OIL CAKE,.....	100 lbs.	1 50	"	1 75
PEAS, Field,.....	bush.	1 25	"	1 75
PLASTER OF PARIS,.....	ton.	2 25	"	3 00
Ground, in bbls.,.....	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....	bbl.	10 00	"	12 00
Prime,.....	do.	8 50	"	9 50
Smoked,.....	lb.	7	"	11
Rounds, in pickle,.....	do.	5	"	7
Pork, Mess,.....	bbl.	12 50	"	15 00
Prime,.....	do.	12 00	"	13 25
Lard,.....	lb.	10	"	11
Bacon sides, Smoked,.....	do.	6	"	8
In pickle,.....	do.	5	"	7
Hams, Smoked,.....	do.	8	"	12
Pickled,.....	do.	6	"	10
Shoulders, Smoked,.....	do.	6	"	8
Pickled,.....	do.	5	"	7
RICE,.....	100 lbs.	3 37	"	4 75
SALT,.....	sack,	1 25	"	1 35
Common,.....	bush.	20	"	35
SEEDS—Clover,.....	lb.	8	"	10
Timothy,.....	7 bush.	18 00	"	25 00
Flax, clean,.....	do.	10 25	"	11 25
rough,.....	do.	10 00	"	11 00
SODA, Ash, cont'g 80 per cent. soda,.....	lb.	3	"	3
Sulphate Soda, ground,.....	do.	1	"	—
SUGAR, New Orleans,.....	do.	64	"	9
SUMAC, American,.....	ton.	35 00	"	37 50
TALLOW,.....	lb.	8	"	9
TOBACCO,.....	do.	2	"	7
WHISKEY, American,.....	gal.	28	"	30
WOOLS, Saxony,.....	lb.	35	"	60
Merino,.....	do.	25	"	30
Half blood,.....	do.	20	"	25
Common do.,.....	do.	18	"	20

REMARKS.—The news from Europe in the early part of the month gave an important rise in the grain and provision market, and though this was counteracted somewhat by the more recent advices by the Cambria, we still quote many articles in advance of last month's prices. Among these are Quercitron Bark, Beans, Peas, Rye Flour, Wheat, Rye, Barley, Oats, Russia Hemp, Hides, Corn Meal, Oils, Provisions, Lard, Clover and Timothy Seed. Cotton and Tar have fallen.

The accounts from Europe continue deplorable. The scarcity of grain and provisions there is very great. We have no reason to suppose there will be any considerable reduction in our market till canal and lake navigation opens.

Money is tolerably abundant. Upwards of ten millions of specie have arrived in the United States within the three past months.

The Weather.—We have had deep falls of snow the latter part of February, which we consider highly favorable. Late snows warm and enrich the earth, and are usually the precursors of abundant harvests and a good fruit season.

TO CORRESPONDENTS.—Communications have been received from Wm. Bacon, George W. Phipps, E. S., T. B. Miner, and R. L. Allen.

ACKNOWLEDGMENTS.—Proceedings of the National Conventions of Farmers, Gardeners, and Silk Culturists, held in connexion with the 19th Annual Fair of the American Institute; List of Premiums awarded by the Managers of the 19th Annual Fair of the American Institute; First Annual Report of the Ohio State Board of Agriculture; The Enquirer, containing Ten Lectures on the Use of Intoxicating Liquors, by Rev. Dr. Nott, President of Union College.



ISABELLA GRAPES

OF proper age for forming vineyards, propagated from and containing all the good qualities which the most improved cultivation for over ten years has conferred on the vineyards at Croton Point, are now offered to the public. Those who may purchase will receive such instructions as will enable them to cultivate the Grape with entire success (provided their location is not too far north.) All communications, post-paid, addressed to R. T. UNDERHILL, M.D., 326 Broadway, New York, will receive attention. He feels quite confident that he has so far mellorated the character and habits of the Grape Vines in his vineyards and nurseries, by improved cultivation, pruning, &c., that they will generally ripen well and produce good fruit when planted in most of the northern, and all the western, middle, and southern states. New York, March 1, 1847. 2t

WANTED TO HIRE

IN the vicinity of New York, a Jack for the service of Mares during the ensuing season. Address office American Agriculturist.

REMEDY FOR THE PEACH-BORER.

BLACKWELL'S Refined Coal Tar, a safe and efficient remedy for destroying the Borer in Peach-Trees. For sale by A. B. ALLEN & CO., 187 Water st.

A YOUNG MAN desirous of perfecting himself in Practical Agriculture, wishes to obtain a situation on a Farm. He has had some years' experience in farming, and pursued a regular course of Scientific Agriculture, being able to perform rigorous analyses of soils, &c. Possesses requisite apparatus. Address P. Q., Office of the American Agriculturist. mlt

SENECA LAKE FARM.

AN excellent and beautiful Farm for sale, lying on the east side of Seneca Lake, in Seneca County, N. Y., about seven miles south of Geneva, containing about 159 acres of the best quality of land. There are about 50 acres of excellent wood and timber land, and the arable and meadow land is of the first quality and in good condition. Lowest price, \$50 per acre. The one-half of the purchase money may remain on bond and mortgage for many years. Title good. The farm may be viewed at any time. Apply to RICHARD DEY, on the premises, or to JAMES A. DEY, No. 51, Liberty street, New York, or to JACOB C. DEY, Fulton street, Brooklyn. Fayette N. Y., February 16th, 1847. 3t

FIELD AND GARDEN SEEDS.

A LARGE and complete assortment of Field and Garden Seeds of all kinds constantly on hand, for sale by A. B. ALLEN & CO., 187 Water Street, N. Y.

SUPERIOR FRUIT TREES, &C.

WM. R. PRINCE & CO., Proprietors of the extensive Nurseries at Flushing, have simply to announce that they now have the finest Collection of Fruit and Ornamental Trees and Plants ever offered; and by continual investigation, and rejecting all inferior sorts, they offer only the most estimable varieties. The Fruit Trees are of large size, and of Pears (although scarce elsewhere) they have 3000, 8 to 9 feet high, with heads of bearing age, and 10,000 of 5 to 7 feet. Peaches of 20 very fine varieties, at \$12 per 100, or \$100 per thousand. The stock of Apples, Plums, Cherries, Apricots, Nectarines, Quinces, Grapes, Raspberries, Gooseberries, Currants, and Strawberries, is very extensive. Of Ornamental Trees and Shrubbery, and especially of Evergreens, an immense supply. 4000 Paulownia Imperialis of Japan. 80,000 Roses, of every variety. Purchasers, or their agents, are invited to view these Trees, and judge of their superiority, as there will be a great saving of time and money in buying those of superior quality.

Linnaean Garden and Nursery, Flushing, March 1, 1847.

PRAIRIE FARM FOR SALE.

640 ACRES PRAIRIE LAND, in Sangamon County, Illinois, 8½ miles W.S.W. of Springfield, the capital of the State of Illinois. The land is pleasantly situated, in a respectable and healthy neighborhood, well watered with never failing streams, and of very rich soil, convenient to timber both on the north and south side; the railroad from Springfield to the Illinois river (which is 35 miles distant) goes through the land. Farms in the vicinity are well supplied with all the varieties of cultivated fruit, some having been in cultivation more than 20 years. Mills, churches, and schoolhouses are convenient. Stone coal can be bought at the pits within five miles from 2 to 3 cents per bushel. Lumber is worth from 10 to 12 dollars per M. Well water is excellent. Quarries of lime-stone and sand-stone are in the vicinity. Hands for farm labor as well as mechanics can be had at moderate wages.

The land was personally surveyed and selected by the son of the owner, after a prolonged search through what is called the garden of Illinois, and would have been improved and occupied by the owner and his family, had not unexpected occurrences prevented.

Price, \$3.50 per acre, one-fourth cash, the balance on time as the purchaser may wish. For further particulars apply to
A. B. ALLEN & CO., 187 Water st., N. Y.

FINE PURE BRED SHEEP FOR SALE.

THE Subscriber being about to give up the farming business offers for sale his stock of Merino Sheep—consisting of 54 pure bred Ewes—all with lamb by the celebrated Rambouillet buck Grandee, owned by the Rev. L. G. Bingham, of Williston, Vt. Also 50 lambs from the above mentioned ewes, got by the Rambouillet buck Chancellor, also Mt. Defiance, owned by Merrill Bingham, of Cornwall, Vt. It is believed by the owner that they are fully equal to any flock of sheep in the country for raising stock. The ewes, aside from raising a lamb each, sheared last June upon an average 4 pounds and 4 ounces of well washed wool, perfectly clean from gum. The wool was sent to Sam'l Lawrence, of Lowell, and pronounced by him to be the right kind of Wool for our Farmers to raise—being the most profitable. Satisfactory certificates of the blood can be given. Apply to the subscriber at Williston, Vt., or A. B. ALLEN, 187 Water st., N. Y.

THOS. H. CANFIELD.

PERUVIAN GUANO.

PERUVIAN GUANO, received direct from the Chincha Islands and shipped by special authority of the government of Peru. All that is sent to this country is thus shipped by the Guano Company, and is consigned to the subscriber. It will be received by him at New York, or by SAMUEL K. GEORGE, at Baltimore. Any other Guano offered as *Peruvian*, is spurious. The price, in quantities not less than *twenty-five tons*, is \$50 per ton.

3tm EDWIN BARTLETT, 42 South-street.

WANTS A SITUATION.

A PRACTICAL GARDENER.—Has a general knowledge of Horticulture and the Formation of Picturesque Scenery.

W. WHEDDON, Gardener to C. Kneeland,
3tm Bay Side, Flushing.

FOR SALE AT A SACRIFICE.

A RICH VALLEY FARM, containing 123 acres, situated on the north side of Long Island, 3½ miles from Cold Spring Harbor, and 5 miles from railroad dépot. Produces in abundance all kinds of Grain and Grass, the buildings and fences are in first rate order, the prospect very fine, and one of the most healthy locations on the Island. The stock, farming utensils, and winter grain will be sold with the Farm if the purchaser wishes. One half of the purchase money can remain on bond and mortgage at 6 per cent. for a number of years, or would be exchanged for good city property. Inquire of

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TO THE PUBLIC.

BY reference to the first page of this number, it will be seen that Messrs. HARPER & BROTHERS have assumed the publication of the *American Agriculturist*; and in doing so the public are assured that it will be continued with increased vigor, and with a steady eye to its general improvement. They intend it as a pioneer to a series of works written expressly for the agricultural community; and in undertaking the publication of these, they are persuaded, that they are best serving the interests of the Farmer and Planter—the largest, the most worthy, and most important class of our great Republic.

The editorial department will remain unchanged; and the subscriber will, as heretofore, do all in his power to make the work useful, and entitle him to the continued regard and confidence of his readers.

We respectfully solicit the attention of our friends, and all those having dealings with Messrs. Harper & Brothers, to use their best endeavors to circulate this periodical. The terms are very liberal; and in aiding to diffuse a work of this highly useful character, they may be assured that they will not only be serving their own interests, but at the same time greatly benefit their fellow-citizens.

The subscription books of the *Agriculturist* will continue to be kept at the old office of publication, 205 Broadway, by CHARLES M. SAXTON, of the late firm of Saxton & Miles. Our former patrons will please forward their subscriptions to him as before, and address him on all matters relating thereto.

New York, February, 1st, 1847.

A. B. ALLEN.

NOTICE.

THE Copartnership heretofore existing between the subscribers under the name and firm of Saxton & Miles, is this day dissolved by mutual consent.

CHARLES M. SAXTON,

EARL E. MILES.

New York, January 27th, 1847.

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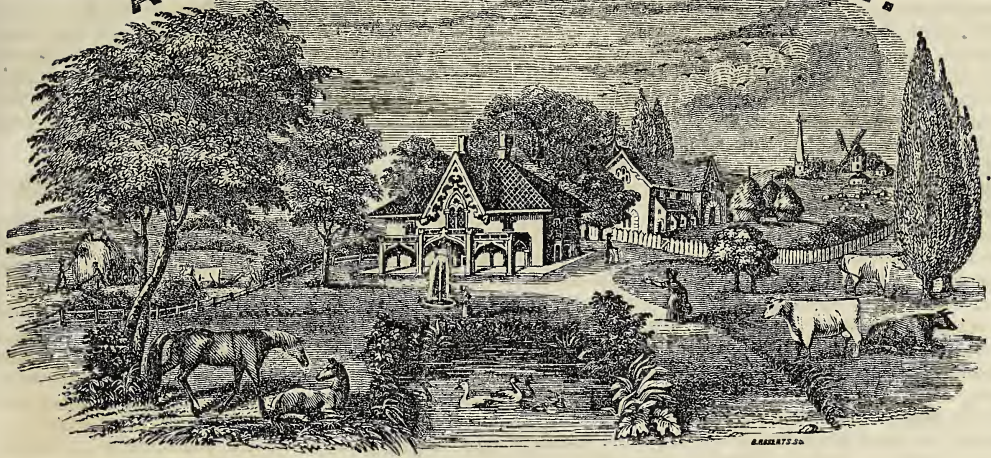
A FEW barrels of these superior oats just received and for Sale. Price \$4 per bbl. They are great yielders, remarkably free from husk, and weigh over 40 lbs. per bushel.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VI.

NEW YORK, APRIL, 1847.

NO. IV.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

CULTURE OF THE HORSE-RADISH.

THE soil most suitable for the production of horse-radish in perfection is that which is light and friable, and of considerable depth; and if any part of the garden is damper than another, that should be appropriated, but it should not be saturated with water. In autumn, let the ground be trenched three feet deep, turning down with the surface soil a liberal dressing of good barn-yard manure. Let it lie, rough, and exposed to the weather, during winter. In spring, at the time of planting, add a second dressing of decomposed manure, turning it under two feet deep. The whole of the manure will now be two feet, or nearly so, below the surface of the ground.

In proceeding with the planting, first measure the ground into rows eighteen inches and four feet apart alternately. Stretch the line at the first row, and dig a narrow trench two and a half feet deep, placing the earth beyond the first row. Then take pieces of horse-radish roots six inches long and place them about ten or twelve inches apart in the bottom of the trench. It is quite immaterial which part of the root is planted, as every part grows without the least difficulty. When this is done, remove the line to the next row, and trench the earth as before, placing the soil over the first row planted, and so continue until the plot is finished, when the soil taken out of the first trench will fill the last. During the summer, keep the ground well forked over and clear of weeds; and, to strengthen the plants, two or three supplies of manure-water will be of great service, as the plant delights in moisture. When liquid manure is applied, it should be given in sufficient quantities to reach the lowest roots.

In taking up horse-radish for use, a trench should be opened at one end of a double row, as deep as the lower roots in order that they may be taken up

of a proper length, and that a sufficient supply may be dug to last two or three months in winter and spring, as it may be kept in excellent preservation for a long time in sand. In cutting up the roots, from four to six inches of the bottom part should be left in the ground, for the purpose of insuring another growth; for the same ground and the same roots, when once planted, will continue for ever, if the same culture, as recommended above, be pursued from year to year.

If these directions are carried out, we have no hesitation in stating that, in one season after planting, an article will be produced creditable to any market, the truth of which will be manifest to any one who will take the trouble to visit the garden of Mr. Junius Smith, at Astoria, on Long Island.

FARM OF GENERAL JOHNSON.

THE farm of General Jeremiah Johnson is situated in the city of Brooklyn, between the village of Williamsburgh and the United States Naval Hospital. It contains 145 acres, about 80 of which are under cultivation, 21 acres in mowing, 2 acres in kitchen garden and orchard, and 30 acres in pasture and wood-land. This is said to be the only farm on Long Island remaining in the same family, having been tilled by its present occupant for more than 60 years. His dwelling, which is jointly occupied by his son, Mr. Barney Johnson, is an old-fashioned double house, one and a half stories high, with two wings, and commanding an extensive view of the East River, the Navy Yard, and the adjacent parts of Brooklyn and New York. The stock of the farm, exclusive of that owned by the tenants, consists of five cows, seven horses, and a sufficient number of hogs for family use, all of which are kept in the best manner by soiling, or stall-feeding.

General Johnson has long since discontinued the cultivation of ordinary field crops, beyond his own consumption, finding it more profitable, from the proximity of his farm to a ready market, to raise garden vegetables; and as he has more land than he can manage himself, he rents a large proportion of his ground in lots, to ten market gardeners, at an average price of \$30 per acre. Like every considerate landlord, he reserves to himself the right of dictating what crops shall be raised by each of his tenants, the quantity and kinds of manure to be used, and the general modes of culture to be pursued, contributing, at the same time, towards the expense of improvements, loses no opportunity to stimulate his tenants to undertake them, and aids, advises, and encourages them during the progress; thus securing to himself the best results, and working out the great problem of obtaining the largest amount of produce from his land at the smallest cost, and for the longest period. His land is kept in the highest possible state of fertility, by annually adding at least 1000 loads of barn-yard, street, or other manures; and he makes it a peremptory rule, that the same kind of manure and the same class of crops shall not be applied or cultivated on the same land two successive years.

General Johnson prefers the street manure from New York, and estimates it according to the part of the city whence it is obtained. He has applied both coal ashes and lime to his land, neither of which appeared of the least perceptible benefit; while the moderate use of common leached wood ashes was attended with good results. On, or near his premises, are several cow stables, from which he obtains a large amount of solid and liquid manures. The latter, in one instance, he conducts, by means of drains, into a reservoir, in which is placed a pump for the purpose of conveying it to his compost heaps, made up of all manner of rubbish, weeds, loam, and straw. In addition to the fore-named sources for obtaining manure, an increased quantity is derived from soiling his hogs, horses, and cows. The latter are kept up until August and fed upon clover, timothy, and the fodder of green corn, the advantage of which, over common pasturing, General Johnson estimates as seven to one. In winter, the cows and horses are principally fed on carrots and hay. The horses, however, are allowed more or less grain.

The vegetables cultivated upon this farm embrace nearly all the varieties sold in the market; but the principal and the most profitable crops consist of early York, early sugar-loaf, drumhead, and Savoy cabbages, Brussels sprouts, radishes, lettuces, leeks, early onions, parsley, spinach, large summer French red beets, Tobago and crook-necked squashes, and early potatoes.

General Johnson attributes the great abundance of weeds which usually spring up in cultivated fields, to the seeds which exist in the land—believing that they may remain there in a dormant state, perhaps for scores of years. To destroy the early growth of weeds, so injurious to tender plants, he considers it a good plan to prepare the ground for sowing, then to cover it with a good coating of dry rubbish or straw, and set fire to it, in order to burn the seeds of the weeds, kill the grubs and other

vermin in the soil, and thereby render it more fertile by the ashes left behind.

Although General Johnson has reached his eighty-third year, he is still active, retains his faculties, and devotes a considerable portion of his leisure time in translating some interesting works written in Dutch. We intend to visit his farm again in the course of the season, when we shall be able to give some further account of his crops and stock.

COLEMAN'S EUROPEAN AGRICULTURE.

WE received Part VIII. of this work too late for notice in our March number. Save a portion of the article on "Live Stock," there is little to regret and much to commend in it. Mr. Coleman's account of the crops of Great Britain is clear and concise, though we notice that some of our contemporaries do not think it as full as it ought to have been. Those, however, who wish to learn more upon the subject, will find elaborate accounts of them in Johnson's *Encyclopædia of Agriculture*, and Stephens' *Book of the Farm*, both of which works are now republished in this country at a cheap rate.

On the subject of Live Stock, Mr. Coleman says: "I come now to speak of one of the most important topics connected with British Agricultural improvement." We are glad to hear him call this subject "important," for we also consider it eminently so, not only in England but in other parts of the world. Scotland and Ireland are rapidly following in her footsteps; several of the continental nations of Europe, also, have within the past twenty years, made large importations of her improved animals, and with these in hand, are fast emulating England's noble example. Nor are the United States and the British Colonies idle. They, also, have imported largely, and will ultimately outrival the Mother Country in the value and number of their improved animals.

Considering its importance now, we cannot but regret that Mr. Coleman had not given himself more time to investigate this subject, and that he should have treated it in the summary way he has. In his earlier numbers, he gave us long dissertations on matters and things in general, of less interest, as many thought, than live stock; yet, when he comes to this "important topic," he dismisses it all in less than 43 pages of large, open type. The thorough bred horse, the greatest improvement in "live stock" that the world ever saw, is not touched upon at all, notwithstanding his blood largely pervades much of the best farm horses of the United Kingdom. Among the highest prized and most perfect farm horses ever produced in Great Britain, were those of a direct cross of a stout Arabian stallion upon the large farm mares of the country. Some of the strongest English thorough breds have produced wonderful excellent farm horses, crossed in the same way. The fine-woolled flocks of the country are not even alluded to; indeed Mr. Coleman says, "there are no fine-woolled sheep in Great Britain." Pray what has become of the numerous pure Saxony and Merino flocks of Mrs. General Doran, the neighbor and relative of the Duke of Richmond, at Goodwood, where Mr. Coleman speaks of often visit-

ing. Others, too, as we were informed, partook of this blood. But silence on these matters is a virtue, compared with the *incorrect* statements he has given of the origin and improvement of Short-Horn cattle, and some other things. We assure Mr. Coleman, in sorrow, not in anger, that if he can make the breeding public believe such statements as he has given in his report, he will soon put an end to all improvements; and those herds which have been fostered and grown up to such perfection, would, in less than half a century, entirely run out, or at best become so deteriorated, as to be scarcely distinguished from the common brutes of the country. Millions of dollars would be lost, and ages might pass away before neat cattle could be brought back to their present state of perfection. He would completely upset the science of correct breeding, and do more injury in this report of his, than he could do good, though he might live a thousand years. We shall now proceed to point out some of his errors, which, in justice to breeders, and in our duty as a public journalist, we feel bound to do minutely.

Mr. C. "The whole object of the famous Herd Book is, indeed, to trace back all these diverging streams to a single fountain, and thus, by an uninterrupted descent, to demonstrate the purity of the blood."

We wish this were really the case; but most unfortunately such is not the fact, as any one can see for himself who will take the trouble to turn to this said "famous" book. There he will find that the cupidity of its first editor, and the breeders of grade and mongrel cattle, have monopolized three-fourths of its pages with the *records* of animals (we will not disgrace the word by calling them *pedigrees*), totally unworthy of a place in it. In this respect it is unlike the Stud Book, which contains as true a record as it is possible for humanity—under existing circumstances—to make of a race of horses bred in England from pure Arabian blood of the very best kind, both on the side of sire and dam. Nevertheless, the Herd Book is a valuable publication to him who truly understands its pedigrees, and the respective value of the first animals recorded in it. The good strains of blood he knows there, and breeds from them; the bad he avoids; thus, the latter serve him the same purpose, that beacons and buoys do the navigator;—they enable him to steer clear of danger. In future editions they ought to be expunged; and, with the light of the present day on this subject, it will be a shame to England if they are not. But we fear the poison is too deep in the body politic to ever hope for a reform in this matter.

Mr. C. "The famous bull, Comet, is still considered as the unrivalled paragon of excellence; the celebrated Durham ox remains without a successful competitor."

As Mr. Coleman himself never saw Comet, we should be glad to know on what authority he makes the above "paragon" statement. Old breeders, and excellent judges of Short-Horn stock, informed us, when in England, that several bulls of his own day were far superior to Comet; and that, at the present time, he would scarcely pass muster in a show-yard among the third-raters of his class. Mr. Wright declares, that he had a *deformed* shoulder! To coin a word, what *paragonism* was there in that? But, perhaps, Mr. Coleman's authority is

more learned and wise than ours. As for the Durham ox, he could easily be beaten nowadays at any Smithfield annual show of fat cattle, except, perhaps, in great weight, which, in itself, is not considered an excellence by good breeders.

Mr. C. "If we have a true history of the stock of the improved Durham cattle, it is the result of a cross of a Teeswater bull with a Galloway cow."

We do not know what some people would call "improved;" but if we are to understand that the good Short-Horns were thus made, then we must say, with all due respect to Mr. Coleman, that a more erroneous statement than the above was never penned, nor one less susceptible of being proved; and we do not care who his authority is; and, furthermore, we firmly believe, that when he comes to bring his naturally fair and candid mind to a more thorough study of animal economy, and the correct principles of breeding, he will perceive that he has been misinformed, and that the above assertion carries with it a *physical impossibility*. Why, this is out-Berrying Berry, who—after becoming interested in this miserable Galloway cross, and standing in fear of prison walls, from a hard-hearted, iron creditor—who was also deeply interested in the same base blood—in his weakness,—palmed off upon the unsuspecting Mr. Youatt, in his History of British Cattle, this false and ridiculous assertion of the *improvement* of Short-Horns. If this *improvement* was so manifest, how came Mr. Berry to be so slow in finding it out? Mr. Charles Colling had his sale of the Galloway cross at marvellous high prices, in 1810. In 1824, Mr. Berry wrote his first History of the Short-Horns, in which not one word is said of the *improvement*. In 1830, he published a second edition of this work, in which not a word is said on the subject, although upwards of twenty years had then passed since the Galloway cross had become notorious throughout England. In 1834, Mr. Youatt's work was published; but in the interregnum, Mr. Berry and others had become interested in the *alloy*, and hence, the change "o'er the spirit of their dream." But we have neither time nor space to follow out the subject at present, and will, therefore, defer it to a more convenient season, when we shall undertake to show why and wherefore the Galloway cross was made; and how it came to bring so high prices at Mr. Colling's sale; and why it has been vaunted ever since by a certain set, *who possesses it*, as a great *improvement*.

If Mr. Coleman wishes to know the true history of Short-Horns, let him inquire of the old breeders contemporary with the Collings and others in Yorkshire, Durham, and Northumberland; or let him refer to an account of them in the American Herd Book. We have the best reason for believing that Short-Horns were a superior race two centuries before the Collings came on to the stage of action as breeders. It was conceded by a company of old breeders in 1812, in discussing the question of the *improvement* of Short-Horns, that no stock of Mr. Colling's breeding ever equalled Lady Maynard, the dam of Phoenix, and grandam of Favorite. This superb cow was probably born at least 35 years before the public sale of the Galloway cross. Mr. Charles Colling often said that he never bred so good a cow as the one he purchased from the agent of the Duke of Northumber-

land, as early as 1784, 26 years before the *improved* Galloway cross was sold; and it is well known, both in England and in this country, that the animals entirely free from the Galloway strain, still bring the highest prices and are most eagerly sought for by judicious breeders. To establish one point, Mr. Coleman quotes from an article on Short-Horn cattle by Mr. Wright, published in the last number of the Royal Agricultural Society's Journal. It is a great pity he did not read this excellent article with more attention and profit. By recurring to it again, he will find that Mr. Wright incidentally claims great antiquity of blood for the Short-Horns; also this emphatic passage:—

"Improvements have often been anxiously sought for by crossing with other breeds, and many valuable specimens have been exhibited; but it may be asked, what breed is there that CAN IMPROVE the Short-Horn? I have seen many extraordinary animals from the cross with the West Highland Scot, but we do not find their offspring uniformly improving by each succeeding cross; there is GREAT UNCERTAINTY in their progeny. The polled or Galloway Scot progresses with less variation in the produce, and continues to improve by subsequent crosses; but neither of them GIVES ANYTHING to the Short-Horn, though the Short-Horn ADDS MUCH to them. *Alloy* being once introduced into any breed of animals will at certain times, and that, too, at very remote periods, *show itself in their offspring*. In a race-horse, *how many crosses* from a cart-mare would it require to produce a race of animals able to *compete* with the original thorough-bred one? And if you chanced to have one superior animal of that kind, *who would dare to venture upon the next produce as being equal to the thorough-bred one?*"

Mr. C. "The Teeswater or Yorkshire stock are a large and coarse boned animal; the object of this cross [the Galloway] was to get a smaller bone and great compactness."

How is it possible that Mr. Coleman can make such an assertion, after spending three years in England, and still there, or near by? Let him get any respectable authority to assert, if he can, that Hubback was a "large coarse boned animal;" or that any of the Duchess family, or the Red Rose, the Daisy, the Princess, the Lady Maynard, or the Haughton tribe were; or the herd of Sir Henry Vane Tempest, or Mr. Mason's, or, indeed, other good Short-Horn stock that had not yet been touched by the "improved" infusion of Galloway blood.

The residue of the long paragraph from which we have made the two short quotations above, is a mixture of the true and false (we do not use the word *false* here in an invidious sense), jumbled up in a way which shows that Mr. Coleman does not understand the subject upon which he is writing, and which, for his own reputation and the public good, he had better never have meddled with.

Mr. C. "It will, I think, not be denied, that they [the Short-Horns] are great consumers. An intelligent herdsman, who had been accustomed to the feeding of fattening animals for eighteen years, and, with respect to whose judgment, I know of no private interest to affect it, gave it to me, as his decided experience, that the Short-Horns require a

third more food than the Herefords. This judgment must go for what it is worth."

That the Short-Horns generally are great consumers for the weight of flesh they carry and the quantity of milk they give, we deny most emphatically. There are many of this breed which we will engage to turn out on as "short a pasture," or tie up to as "scanty a manger," as Mr. Coleman could desire; and he may bring any cattle of nearly equal size, of any breed he pleases, to compete with them; and we predict the said Short-Horns will thrive and look as well as those of Mr. Coleman's choice. As for the opinion he quotes of the Short-Horns "requiring a third more food than the Herefords," it must indeed "go for what it is worth." If Mr. Coleman had a true idea of animal structure and the power of its respective parts, he would not have repeated so one-sided a statement. A very fine Hereford by the side of a very bad Short-Horn, would, most probably, consume one-third less, and the case would be reversed were the former a bad animal and the latter a fine one. Other things being equal, there is little or no difference in the consumption of food, for the relative amount of beef and milk made from it, with these justly rival breeds, or, indeed, with any other well bred cattle.

Mr. C. "The finest herd of Short-Horns which met my observation—though it must be remembered that, if I have seen many, they are but few compared with the whole number to be seen—I found in Lincolnshire, in the possession of one of the best farmers in England, a tenant of Lord Yarborough. They were not in the Herd Book, but had been in possession of the family more than fifty years. A superior lot of cows, in appearance and condition, I never saw, nor expect to see; but they were not distinguished for their milking properties."

We also passed through Lincolnshire two years previous to Mr. Coleman, and saw something of the herds of cattle there, and also made diligent inquiry for them; yet beg, with great deference to his superior judgment, to say, that we were not quite so fortunate as himself, for we neither saw nor even heard of any such fine animals, "not in the Herd Book." But, it seems from Mr. Coleman, that the "finest herd" are "not distinguished for their milking properties." Then the more is the pity; for the word "finest" we understand him to use in the sense of *choicest* or *best*. If so, we can only add, that no respectable breeder in America would class his cows as "choicest" or "best," which, in addition to fine fattening properties, did not add that of deep milking; and so we understood this matter among the good breeders when in England. But, perhaps, things have changed since we were there.

Mr. C. "The property to take on fat is considered inconsistent with that of large secretions of milk. This is not without exceptions within my own knowledge, but is generally true."

We deny that the above assertion is "generally true." Many of the best milkers fat as kindly as any other animals in existence; and if proper pains be taken in breeding cows, this will be the case in nineteen out of every twenty, or, perhaps, ninety-nine out of every hundred. Any one who

properly understands animal economy, and is an adept in his business, can either breed the single quality of fattening or milking in his herd, or a combination of the two, just as he pleases. The one, so far from being incompatible with the other, may be easily united with it, and often is so united, as can be shown both in the United States and Great Britain. But we will quote an excellent authority on this subject.

"Experience has also proved another thing—that the good grazing points of a cow, and even her being in fair store condition, *do not necessarily interfere with her milking qualities*. They prove that she has the disposition to fatten about her, but which will not be called into *injurious* exercise until, in the natural process of time, or designedly by us, she is dried. She will yield *nearly as much* milk as her *unthrifty* neighbor, and milk of a *superior* quality, and at four, five, or six years old, might be pitted against any Kyloe, while we have the pledge that it will *cost as little to prepare* her for the *butcher*, when we *have done with her*, as a *milker*. It is on this principle that many of the London dairymen now act, when they change their cows so frequently as they do."—*History of British Cattle*, page 246.

Mr. C. "A large proportion of the Short-Horns stand too high, and have too long legs. The Herefords are not exempt from this fault, but have less of it; but they lack substance and breadth behind."

This is a new discovery to us. We never observed that Short-Horns and Herefords had long legs. We should like to take the tape-line in hand, and go on a measuring expedition with Mr. Coleman—Short-Horns and Herefords *vs.* any other breed he might please to name. The rule of our decision should be, the length of the leg in proportion to the size of the animal under consideration. We will engage to beat him out and out, at least on this side of the water.

Although Mr. Coleman may deny that such were his intentions, still the gist of his remarks goes to prove that Short-Horns are an unprofitable dairy stock. If not, why does he make the following and other remarks, on the large quantities of milk it can be proved that they have given?

Mr. C. "At a large milk establishment in Edinburgh, kept by a woman, she told me that she had owned a Teeswater or Yorkshire cow, which had given twenty-two Scotch pints, or forty-four quarts, of milk, per day. I was assured of this woman's credibility; but then, with a perfect respect for the conscientiousness and good intentions of the sex, I habitually distrust their arithmetical accuracy, whether in regard to their own age, if they are far on the journey of life, or to other matters. It is not in their way to remember numbers exactly. The great astronomer, Mrs. Somerville, is a rare and magnificent exception."

Now why should not this good woman be believed, especially after being "assured of her credibility?" Pray, sir, is it a thing more extraordinary that this cow should give forty-four quarts of milk per day, than that another should cut 12 inches of perpendicular fat on the rump, 10 inches on the loin and croup, and 9 inches on the shoulder; or that single oxen should weigh from 3,000 up to 4,000 lbs.?

When in England, we were informed that it was on record in one of the parish registers of Yorkshire, we believe, that a cow of last century gave fifty-one quarts at three milkings in *one day*; and added our relater, a highly intelligent and respectable man, "this is as well an attested fact as any other in history." Several Short-Horn cows in the United States have produced from 28 to 38 quarts of milk per day; and one instance of 38½ quarts per day was sworn to before a court of justice by at least six respectable witnesses. We saw a grade cow at the West, whose owner informed us, gave 41 quarts per day. Perhaps, with Mr. Coleman, we ought to distrust his "arithmetical accuracy."

Mr. Coleman is himself a witness of Short-Horn cows having produced the *largest* quantity of milk per day of any others on record. Mr. Bailey gives, in the History of British Cattle, an account of a Short-Horn cow yielding 3 oz. 6 dwts. of butter from *one quart* of milk. Mr. Coleman asserts, that the Alderney cows "surpass all other breeds for the extraordinarily rich and creamy quality of their milk." We shall be greatly obliged to him if he will hereafter show us anything superior to the milk of the Short-Horn cow above, either in an Alderney, or, indeed, in any other breed. He has certainly thus far failed to do so in his report.

Mr. Coleman makes some assertions in regard to the South Devons and other stock, which we know, from our own observation, to be incorrect; but the length of this article warns us to stop, and we will not undertake to point them out at present. Several of the subjects in this report, particularly that on South Down sheep, are uncommonly well treated. We think, however, that some notice was due to the flock of the Duke of Richmond, also to that of Messrs Grantham, Ellman, and a few others, which, in our judgment, are scarcely inferior to Mr. Webb's.

We perform an ungracious task in writing this article, and one which we would gladly have avoided; but as important interests are at stake, situated as we are, we feel bound in duty and in honor to do it. We could say no less than we have, though the author of the report in question were our own brother. We have endeavored to treat Mr. Coleman throughout with all courtesy and fairness; and the more especially as he is still abroad, and it may be some time before he can see this article and reply to it. He asserts that "his opinion is given without any pecuniary bias;" we can add the same of ours; for it is several years since we ceased to have any pecuniary interest in Short-Horns, or, indeed, in cattle of any kind whatever.

VALUE OF BONE DUST FOR BUCKWHEAT.—A correspondent says that he sowed about 40 bushels of bone dust on five acres of buckwheat, and reaped from them 70 bushels, while the balance of the same field was not worth harvesting.

TO PREVENT FROTH RISING WHEN CHURNING.—A lady says she had well nigh given up making butter this winter; for, as soon as she commenced churning, the froth would rise. She tried every preventive that was suggested to her without effect, until she was advised to try *salæratus*, which she did, and that proved effectual.

A HAY CRIB.

FARMERS are not particular enough in saving their hay. They throw it out in the yard, where cattle tread it under their feet, without any regard to the quantity wanted. How much better they would eat it if kept from the filth of the yard in a crib made after the fashion of the following wood-cut.

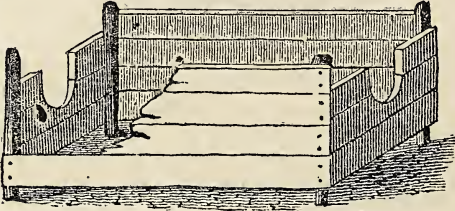


FIG. 24.

It would save what would be worth three times their cost. They are cheaply made by nailing boards on four posts, $4\frac{1}{2}$ feet long, $3\frac{1}{2}$ feet wide, and $3\frac{1}{2}$ feet high, with the feeding places at the ends $1\frac{1}{2}$ feet above the ground. The cribs should be made so tight that there can be no hay got except at the feeding places. The length given is such that the cattle can reach their food from the centre either way; and it is better not to have but two feeding at each crib, as they are more peaceable. Try it—two or three hours' work in making them, will save five times as many dollars.

BEAUTIFUL ENGRAVINGS OF ANIMALS.

WE invite our readers to call at our office, 187 Water street, and examine a series of engravings of animals, selected with great taste and care, by Francis Rotch, Esq., when in London last year. They are the choicest of their kind; and what makes them the more valuable is, they are actual portraits and correctly colored after nature.

No. 1. A stable of thorough-bred horses—the Emperor, Foigh-a-Ballagh, Charles Twelfth, and Alice Hawthorn. These are among the most celebrated horses of England.

No. 2. A stable scene of hunting-horses.

No. 3. A stable scene of coach-horses.

No. 4. A stable scene of farm-horses.

No. 5. A portrait of the excellent breeder, Mr. Crisp, and one of his superb South-down bucks. We saw them both when in England, and know them to be faithfully done.

No. 6. The Duke of Northumberland, a Short-Horn bull, bred by Thomas Bates, of Yorkshire. The Duke was the best bull of his day in England, and invariably took the first prize wherever exhibited.

No. 7. Duchess 34. A Short-Horn cow bred by the above. We saw both of these animals at Mr. Bates's farm, when in England, and compared their portraits with them, and consequently know them to be accurate.

No. 8. A Short-Horn ox bred by the late Earl Spencer. He was exhibited at the Smithfield Show of fat cattle, in London, December, 1839, and took the gold and silver medals, thus winning the highest prizes as the best ox of any breed exhibited that year.

No. 9. A Hereford prize ox, which took the first premium as above in 1840.

No. 10. A group of Leicester sheep.

No. 11. A group of South-down sheep.

These portraits are admirable models, and deserve the careful study of breeders, as well as all others desirous of obtaining a correct knowledge of domestic animals.

They are elegantly framed, and done up in a peculiar style, giving them the effect of the best specimens of oil paintings. We shall take pleasure in ordering copies of these or any others our friends may desire.

WASTE MANURE.

How many substances do we see lying about the country which might be gathered up and applied as manure; thus removing many an intolerable nuisance, and at the same time greatly increase our crops and add largely to the product of the land. Here is one—the refuse of glue factories. This substance has been recently analysed, and found to contain—

Water,	-	-	-	45.66
Hair,	-	-	-	1.10
Fatty matter,	-	-	-	23.34
Cellular tissue, and a little ammonia,	-	-	-	4.43
Phosphates of lime and magnesia, and a trace of iron,	-	-	-	2.30
Carbonate of lime,	-	-	-	20.06
Sand, and loss,	-	-	-	3.11

100 parts.

Our readers will now see that this refuse is a highly valuable manure, and should be sought for with avidity. They will find plenty of it poisoning the air of this neighborhood with its fœtid odors. We presume the glue manufacturers, in several instances, would even pay for its removal. What would not Jack Chinaman give for a full swing at it!

TO OUR SOUTHERN SUBSCRIBERS.—It will have been perceived by the readers of the *Agriculturist* that we have added the name of R. L. Allen, 75 Camp street, New Orleans, to the names of our agents at the south. He has already sent us the names of a large number of the leading and most intelligent planters in Louisiana, and many in the adjoining states, who have voluntarily called on him to leave their subscriptions. Many at the south have been deterred from subscribing, heretofore, from the difficulty of forwarding payment, and some from the irregularity in receiving their papers through the country offices. To all such, the establishment of this agency offers an opportunity of taking the *American Agriculturist* with the same convenience and freedom from risk of not receiving it, as if it were printed in New Orleans itself. The money for one or any number of copies, either for the past, present, or future volumes, may be paid there, and by adding the postage, the numbers may be received at the office above indicated, or they will be sent to factors, or any other designated agents. We trust this arrangement will meet the wishes throughout so much of the south as make New Orleans their headquarters. Complete sets of bound volumes are also to be had at the same place.

TRANSPLANTING TREES.

In a late communication for your paper, I made some remarks on the time and manner of taking up trees for transplanting. I now propose to resume the same subject; but, before I proceed to the preparation of the ground, into which the tree is to be placed, it may be proper to remark, that in removing trees, it is desirable, when it can be done, to take them from a soil as nearly similar to the one into which they are to be placed, as possible. It is better, however, to remove them from a wet to a moist, or from a moist to a dry soil, than the reverse; for if removed from dry to moist or wet land, unless they are of species usually found in such lands, they acquire sickly habits, which result in consumption of parts near the heart of the tree, and from year to year, the leaves are more and more subject to a premature ripeness and fall off, sometimes long before those of the same species in favorable locations, until at last the top begins to die, and eventually the whole tree is lost.

Another consideration is that of *pruning*. Evergreens should never be pruned at all. One of the choice elements of their beauty, is their branching limbs and fine conical heads; and much of that beauty is derived from the branches starting out near the ground, thus making the form from the earth upward, complete. If they *must* be deformed by the saw, however, let the mutilating process be performed, early in summer, when nature is most active, and the tree is in vigorous growth, in order that it may form its own panacea, and heal the wounds before disease commences and rottenness ensues.

The murderous and sacrilegious practice of cutting off the *tops* of trees, is still, by many, tenaciously adhered to. It is a practice, however, every physiologist must see the necessity of abandoning, when he considers that the ascending stalk is in reality the head of the tree, and that the branches are but appendages, or, in fact, so many trees of the same species, taking root in the main stalk and growing out therefrom.

Thus, it will be seen, that, if the main stem of the tree is taken off, its height is determined at that position, and whatever upward advances may be made in the way of top, are the result of these adventitious appendages, the branches, taking the place of the main shoot, and throwing up an artificial head. I would say, then, if you value the beauty, health, long life, or size of the tree, prune the side shoots as much as you please (but prune close, and with care) and nature will apply her remedy, and as the spreading roots increase, the means of procuring nourishment, new branches, endowed with the same faculties of self-provision and self-protection, will shoot out and fully replace those taken off to meet the exigencies of the parent tree, by providing shade for its roots, and furnishing myriads of leaves for the elaboration of sap, to provide for the wants of the growing trunk.

In preparing the ground for planting trees, the pit should always be made much larger every way than the size of the roots actually require; but in *setting*, a tree should not, in ordinary cases, be planted deeper than it originally grew. The pit should be filled up, with light earth or inverted turf, which,

in such a position, will soon become light earth, charged with vegetable remains; and, in time, will become the convenient and healthful food of the tree. When you have filled the pit so as to give the tree its usual depth, then, after setting, throw in and around, light earth, until the roots are well covered, after which, less care may be used.

Errors often arise, in selecting the *variety* of trees for transplanting. For instance, maple has, in time past, been the popular shade-tree. Hence, maples have been thrown into every soil and exposure, in consequence of which many have lost their labor with their trees, have become discouraged in tree-planting, and thereby their farm-buildings and waysides are left vacant of the beautiful and healthful embellishments. I say beautiful, because every one admires the regular symmetry, and just proportions of a well-formed and vigorous tree, and in these days of well-directed taste, the dwelling seems to lack a necessary appendage, that stands in "unblushing nakedness," with no tree to shelter it from the scorching sun, or protect it from the merciless peltings of the bitter storms, and driving winds; while the health of the denizens of such habitations, especially in low regions, or in the vicinity of rivers and ponds, are more exposed to the inroads of diseases arising from miasmatic vapors, continually in exhalation, with *no trees* to inhale their pernicious qualities, and thereby render the atmosphere purer and more congenial to the demands of animal life.

WILLIAM BACON.

Richmond, Ms., March, 1847.

TO THE PUBLIC.

In an article which I wrote, and which was published in the American Agriculturist for November, 1845, charges were made against Mr. Luther Tucker, then Recording Secretary of the N. Y. State Ag. Society, of using his official influence to promote his personal interests. These charges were founded upon what I then supposed to be good authority; but further investigation has convinced me that there was no foundation for them. I therefore fully and freely withdraw those charges against Mr. Tucker, and believe his statement in reply to these charges, published in the Cultivator for December, 1845, to be true.

A MEMBER.

LARD LAMPS.

I HAVE often alluded to, and even laid some stress upon, the use of lard lamps, in my enumeration of the evening comforts of a country gentleman's family. This is not only because the light afforded by them is more beautifully brilliant than any other, except gas, but that lard is always one of the staple products of the farm. The lamps used for burning it, do not differ materially from those for burning oil; and if the lard be made hot, and the lamp filled just before it is to be lighted, any kind of lamps will do as well. I have always been troubled to see a family straining their eyes, at work round a table, with one miserable, long, lumpy tallow candle, with as much wick as grease, shedding its feeble rays, just enough to make the "darkness visible;" while, in point of economy, it is cheaper to burn one lard lamp, than two such candles, to say nothing of the pleasure and advantage of seeing

what one is about. I speak from experience, for, during a whole winter of six months, I burned two lamps in my parlor, one in the kitchen, and one which burned all night, without buying an ounce of fat for the purpose; and that year, we had neither pork nor beef of our own killing, but depended entirely upon bought provisions.

To soften the beef and mutton suet, I mixed with it the fat of the poultry, carefully rendered: and all the grease from the kitchen, except that from smoked meat, was purified to answer the same purpose, by being washed twice or thrice in clean boiling water, and then strained through a cloth, to free it from salt, and other impurities. E. S.

Eutawah.

PRESERVATION AND APPLICATION OF MANURES.—No. 3.

It may be laid down as a well established principle, that the alkalies, alkaline earths, and mineral elements, which enter into the composition of the food of man and beast, and thus serve to nourish the body, *are all given back to the soil*, in the form of solid and liquid excrements, except that portion which has served to increase the growth of the body, or rather solid parts of the body, for no parts of these elements which entered into the solid parts of animals, is, upon the death of such animals, restored to the soil. Thus no part of these elements need be lost to agriculture, except that which is contained in the bodies of the human species, which, of course, is buried in the grave. The *nitrogen* consumed in the food of men and animals, is also restored, with the exception above mentioned, but as this substance is easily converted into ammoniacal gas, more care is required to prevent its loss, by escaping in the form of ammonia.

From the principle laid down above, it is evident that if such care be used to preserve and restore to the soil everything which grew upon it, its fertility could not be diminished. Even the mineral elements, which are taken from the soil, in the form of hay, grain, and other provender, for man and beast, if consumed on the plantation, could with proper care, be nearly all restored to the soil. But it must be admitted, that although every possible care may be used, the whole of these elements cannot be restored. As already remarked, a portion of them, though very small, is buried in grass, a much larger portion is consumed at a distance, in our towns and cities. Some is exported to foreign countries, and some part of them is unavoidably lost on the plantation. But on the other hand, it must be recollected, that a kind Providence has provided a means of compensating these unavoidable losses. In the first place, there is constantly, though very slowly, progressing a disintegration of various rocks, which furnish new supplies of these mineral elements; and in the second place; as shown in my former number, a considerable supply of common salt, chloride of potassium, magnesia, &c., which by evaporation, and the winds, is carried over the whole earth. Of nitrogen, a considerable quantity is derived in the form of *ammonia*, from the atmosphere. These supplies were doubtless intended, by a wise Providence, to replace the *unavoidable* losses of the alkalies, and other mineral elements, which are so essential to the continued

fertility of soils. But it was not designed that they should be so abundant as to supercede the care and industry of man. And hence the necessity of constant vigilance and attention to give back to the soil the elements, which are essentially necessary to preserve its fertility. Horses, cattle, hogs, sheep, &c., which are pastured on fields, which are intended for future cultivation, give back to them immediately, in the form of solid and liquid excrements, all that they take from them. This is, therefore, a most economical and judicious application of manure. If the fields, thus pastured, should be well set with old clover, this mode of applying manure would be particularly valuable, for Liching shows, in his XVth letter, that with every 1000 pounds of carbon, we obtain from a field of wheat 21.5, oats 22.3, rye 15.2, and clover 44 pounds of nitrogen. Thus the clover, in consequence of its numerous leaves, must have derived from the atmosphere, in the form of *ammonia*, more than twice as much nitrogen as wheat or oats, and nearly three times as much as rye. It probably also imbibed, from the atmosphere, a similar proportion of the elements furnished by the evaporation of sea water. As all these elements are so much added to the soil, it must be considerably enriched by each successive crop of clover, fed off on the ground.

Corn is frequently cut up in the stalk, cured, and then hauled and fed on a field intended for future cultivation. Here all the elements contained in the fodder and corn are taken from the field on which the corn grew, and given to the soil upon which it is fed. Thus the latter is enriched at the expense of the former, by giving to it all the manure derived from another field. But as the field, upon which this grew, will, in turn, be sowed down in grass, and become the field upon which the corn will be fed, which is grown upon the field enriched as above, this is an economical application of manure. And if the fields should be kept a due proportion of time in grass, and especially, if kept in clover, their fertility would be procured, and may even be reinstated, after having been considerably exhausted, by making the grass crops occur twice or thrice (according to the degree of exhaustion) as often as the grain crops. But sometimes cut-up corn is fed upon woodland, or upon grass land, too broken for cultivation. This is a great want of economy in the application of manure, as it is wholly lost to the cultivated fields. This practice, if pursued to any extent, is well calculated to exhaust, instead of preserve, the fertility of soils. A. BEATTY.

Prospect Hill, Ky.

CULTURE OF BARLEY.—The high price of this grain and the scarcity of good marketable samples the present season, should induce farmers to pay more attention to its culture. The best soil for it is a light, rich, loamy clay; and on this it produces most abundantly, and pays the cultivator as well, and often better, than any other crop grown. Much is said of the skinless barley, but, on the whole, we prefer the four and six-rowed kinds. On a proper soil, one and a half bushels is sufficient seed per acre. If desired, the land may be stocked down with grass at the time of sowing the barley.

LETTERS FROM THE SOUTH.—No. 5.

THE only plantation my limited time would permit me to visit in South Carolina, besides the one mentioned in No. 2, was that of Gov. Hammond. This extends from Silver Bluff, on the Savannah, some 3 or 4 miles back, and for a long distance on its banks. All that portion of it which is near the water is a fertile alluvial soil, and is frequently enriched by the overflow of the river; while much of that which is remote, passes into the high upland sand or gravel, which is characteristic of the great majority of land in the eastern portion of the State. Cultivation is confined almost exclusively to the former, and the best portions of the latter. The plantation lies some 16 miles below Augusta, and the road leading to it is varied, and much of it highly picturesque. For three miles it leads over a fertile alluvial plain, which, although high above the ordinary level of the river, is frequently overflowed after heavy and long continued rains. Much of it is enclosed and subjected to tillage; but the greater proportion of what I saw has the appearance of having been once reclaimed from the original forest, and notwithstanding its proximity to a large town, it is now lying in commons. Its luxuriant herbage is cropped by numerous herds of cattle and swine, which find a secure retreat from the oppressive sun and beating storms in the thickly tangled chaparrals formed by the evergreen and deciduous trees, over which the grape and other vines and the Cherokee rose clamber in wanton and fantastic profusion. One field enclosed a large flock of goats, the first of the kind, as *farm stock*, I had ever seen in this country. As the dairy is a minor object at the south, I conjectured they were reared principally for the shambles, and this opinion was confirmed by the little information I could gather on the subject.

There is a bridge at Augusta, connecting it with Hamburg on the opposite side, the lowest, I believe, on the Savannah. Steamboats of considerable size ascend to this point in an ordinary stage of water; but when low, only the smallest reach it, and even then with no little delay and trouble. The consequence is, that the railroad is enabled to underbid the boats for freight, and a large portion of it takes this route to Charleston; while the Central or Savannah road, running south and west of Augusta, draws off a portion of the produce and trade directly to the seaboard, which formerly went by the way of Augusta.

Georgia, like all the other older States, concentrated at an early day the earnest attention and excited the fondest hopes of some master spirits of the age. Among these may be mentioned the acute and metaphysical mind of Locke, the comprehensive and liberal philanthropy of Oglethorpe, and the irresistible eloquence and unswerving devotion of Whitfield. But the form of government designed for it by the philosopher, was too Utopian and speculative for a modern practical people, and was blown away like a gossamer by the first breath of the popular will; while the more solid and rational views of the philanthropist and the Christian, which were fully impressed upon her early institutions, will be felt for good to the latest generations.

Georgia was the southern frontier during the Re-

volution, and owing to the sparseness of her population and the peculiar position of her citizens, was by far the weakest of the old Thirteen, and she early fell an almost unresisting prey to the royal forces. Her population and improvement were comparatively rapid after the close of the war, and she now ranks amongst the foremost of the southern States, in products, wealth, and population. Thus much, *en passant*, for my first glimpse of Georgia.

Gov. Hammond has devoted much time to the investigations of modern scientific agriculture, and has carried into successful practice many of its best improvements. This is manifest in the varied crops which he cultivates, in his numerous huge piles of manure, and his extensive ditches, by means of which large bodies of fertile land have been reclaimed from an utterly worthless condition. The latter yield muck of great value for manure, or, when properly treated, make the most enduring and productive soils for crops where they lie. Like the peat and muck beds of the North, they require the decomposing effects of the atmosphere for some time after thorough drainage, to adapt them to the cultivation of miscellaneous crops; and from the occasional scantiness of these, we may fairly infer, that they are deficient in some of the essential requisites for the fullest development of profitable crops. The luxuriant growth of certain weeds or grasses, wherever the cultivated crop fails, shows conclusively the rich storehouse of numerous elements of vegetable life, and that the addition of the one or more that may be wanting, will not fail to ensure large returns of the useful products. The usual practice with these soils at the North, is to throw up piles of the top or superficial vegetable soil, and when thoroughly dry, burn it and scatter the ashes over the surface. To this is added barn-yard manure, and especially wood ashes; and when it approaches nearly to the character of peat, sand or gravel should also be applied. Lime and plaster of Paris, and sometimes salt, are also frequently valuable applications.

Gov. Hammond has introduced the practice of extensive marling, and with great benefit. He is thus enabled to increase his manure beds to any desirable extent, by a combination of vegetable matters with the muck and marl on his premises. The latter is found in great abundance on the bank washed by the Savannah, and is brought up in flat boats to his landing, and thence distributed wherever required. This is rich in lime, yielding by a recent analysis from 50 to 70 per cent. of carbonate of lime. Of course, with these materials in the hands of an intelligent and enterprising planter, there is little apprehension of *exhaustion* upon his lands—the great bane of southern agriculture. So far from this, there is evidence of rapid improvement in those fields subject to tillage, and Gov. H. is satisfied that his crops fully come up to the average yield of the Alabama and Mississippi plantations. Their greatest products go far beyond his; but they are subject to many casualties not here known, or felt only in a mitigated degree; and he is fully satisfied to cultivate his long tilled acres, and leave the clearing of new and remote lands to those who prefer excessive manual toil and priva-

tion to the exercise of intelligence, good judgment, and the application of some of the first and most obvious principles of modern improvements.

Several choice breeds of swine have been introduced on this plantation; but the preference is given to the Neapolitan, which he personally selected and brought from Italy, and their numbers have been increased by subsequent importations. These are provided with an admirable range of woods, shelter, pure water, and green and dry food in abundance; yet they are frequently subject to a mortality, common both at the South and West, the cause or causes of which have hitherto eluded discovery. This is a subject well deserving the investigation of skilful physiologists; and it is to be hoped that its importance will not fail to enlist some gifted mind, in what is still a desideratum in agriculture, viz:—a thorough knowledge of the habits, diseases, and proper treatment of swine.

Many of the best modern implements have been introduced here, and their operations have been found to economise labor and perfect the operations in a highly satisfactory manner. A grain and saw-mill, and the cotton-gins, are all propelled by water power, which is furnished by a small but permanent stream, on a convenient part of the grounds.

The cultivation of the fields was of the most perfect kind, both as to design and execution. The greatest regularity, and entire cleanliness from worthless vegetation, seemed to pervade all the cultivated part of the plantation. There were many of the miscellaneous products, too generally limited to a higher latitude, and the successful crops of turnips, ruta bagas, beets, southern rye, and other green crops for soiling, showed that attention and skill alone are wanting to insure the most satisfactory results. This is equally true of the soil and climate as far south as the Gulf of Mexico. If a system of culture embracing a much larger production of fodder (to be consumed on the premises) were introduced, the effect would be beneficially felt, not only in the much greater immediate aggregate value of the crops, but also in the gradual improvement of the soil, that would ultimately swell the amount of the present staples. This is obvious from the system now too generally practised, which consists in appropriating fields to one article alone, as of corn, cotton, tobacco, or the like; and when too much exhausted to make a remunerating crop, it is turned out for years, to recover by the slow operations of unassisted nature. The appropriation of a part of the fields to the growth of forage, which should be consumed upon the ground, would necessarily introduce a rotation, whose benefits would soon be felt in the gradual amelioration of the soil. If fewer acres would thus suffice to occupy the plantation force, the proprietor would probably find at the end of the season that his profit and loss account was more satisfactory. Dr. Bachman, of Charleston, informed me that one person had recently realized a larger net income from the product of green forage, on less than 100 acres of land in that vicinity; and although an equal amount of profit could not be expected remote from the large markets, yet it cannot be questioned that its more extensive production and consumption at home would be attended with the happiest effects.

There is a large natural growth of sumac on this plantation, and many others in this and the neighboring States; and growing in a soil and climate not unlike much of that in the Mediterranean (from which we import some of the best for the various purposes of dyeing, tanning, &c.), this may be found a good substitute for it. A brief summary of the manner of curing and packing for shipment, through the columns of the *Agriculturist* (which I find has a wide circulation among the intelligent planters in the south), might eventually lead to the export of large quantities to the northern markets, where it is now extensively used. (a)

The elevated bottom lands which border the left bank of the river, and which here occupy an undivided field of two or three miles in extent, mostly covered with corn and cow-pea, present a beautiful appearance. Near their centre is Silver Bluff, thus named from the fancied existence of silver ore within it, when first settled by the Spaniards two centuries ago. There is an old brick house near the bank, whose antiquity is beyond tradition, which was used by the English during the Revolution, as the nucleus of their fort and barracks; and a large indenture from a cannon shot, shows conclusively that it has witnessed one of those hot encounters which everywhere marked the fierce and sanguinary contests of that eventful era. A double row of magnificent live or swamp oaks marks it as a site of ancient and cultivated occupancy.

There are many species of these oaks closely resembling each other in shape and general appearance. When fully grown, the trunk is from 3 to 5 feet in diameter, erect, and at a height of 15 to 20 feet branches into thick outspreading limbs, of great regularity; and presenting, at a little distance, the appearance of a beautifully proportioned dome. The closely interwoven branches, everywhere covered with small laurel-shaped evergreen leaves of the deepest verdure, complete the outlines of these species, which are without a rival in their peculiar features, among the indigenous forests of North America.

It was a source of sincere regret that I could not comply with the urgent invitation of my kind host and other friends along my route, and spend days instead of hours in witnessing the successful efforts which are now making by many of the most enlightened and spirited planters, in their laudable and patriotic efforts for the improvement of southern agriculture.

R. L. ALLEN.

New Orleans, Nov. 27th, 1846

The above should have appeared in the February number of our paper, as No. 3 of *Letters from the South*, but got misplaced.

(a) Our readers will find an excellent article on the culture of the Sumac, in vol. 2, page 239 of the *Agriculturist*. We here quote what relates to cutting and curing, and refer to the article for full information as to the rest.

Sumac should be cut or gathered in clear weather, and should be so spread on a floor as to dry rapidly; for if only a small part should ferment, the whole mass will be seriously injured in its marketable value. It should be fine ground when dry, and

packed in bags containing about one hundred and sixty pounds each, net weight. No rain or dew should be permitted to fall on it after cutting, for even the damp from the hold of a ship will injure its quality greatly.

MANAGEMENT OF HONEY-BEES.—No. 8.

In order to prevent the bees from leaving their hives too freely, in the winter season, a free circulation of air is essential at the bottom. The bottom-board, however, cannot be allowed to remain as it does during the summer, open on all sides, for several reasons; one of which is, and sufficient, that the bees are liable to become chilled while resting upon it, and also to be blown off while in a state of torpor.

As soon as cold blustering weather sets in, generally in November, I take cotton wadding, and with a knife press it under the sides of my hives, all around, excepting in *front*. I do not press it beyond the inner surface of the hives, if the cotton retain its position permanently. On such side as is most exposed to cold winds, I leave a space of about an inch, as an air-hole; and through this aperture, a current of fresh air is constantly keeping the bees cool and healthy, without any desire to leave their habitation, unless the weather be very mild, and then in small numbers.

The state most congenial to the nature of the bee, in the winter season, is that of *hibernation*, or torpidity; and the bee, whose days are few at most, shortens its life by every day of activity from December to March; and every day of torpor is a lease of life extended. If then, the life of the bee is limited to one year, and the dormant state of the winter months is not brought into account, how very important it is to keep them as long as possible in that condition. When I commenced keeping bees, on the approach of winter I placed my hive in a very warm nook of my premises, where the rays of the sun roused the whole swarm into motion, and I congratulated myself on being able to afford my bees such unusually warm accommodations; but I soon found out my mistake, for my bees died so rapidly that I verily believe, had I not removed them to a cooler place, not one in ten would have survived till spring.

Spring Management.—The queen commences her spring laying on the approach of mild weather, in March or April. Even in February, should we have two or three weeks of warm weather, she may commence her spring laying. The indications of this are the activity of the bees in going abroad, and their return loaded with pellets of pollen upon their thighs. The latter is a sure indication. Should this be the case as early as in the month of February, in the latitude of New York, the bees will be placed in a very critical situation; for cold weather must, as a matter of course, intervene before the approach of settled mild weather. Under such circumstances, should the weather continue mild, the bees will consume more honey in a week than during a month of steady cold weather; and if their supply be not abundant, feeding in the general way as before described, should be resorted to. In any case, when spring opens prematurely, the greatest care is necessary, for the reason that if the bees

are on short allowance, their destruction is inevitable, unless they be fed. It is recommended by some experienced apiarists, to put a little salt, and also a little wine or ale, into their food, in the spring. As the experiment will cost little or nothing, it may be as well to try it. I have tried it, but whether my bees were invigorated thereby I cannot say; yet from the voracity with which they demolished it, I am sure that temperance restrictions have not, as yet, been enacted in their code of laws.

Those who may adopt my plan of filling in around the bottom-board with cotton, should close the aperture on the back of the hive, as soon as the laying season commences, as the ova are hatched by internal heat, generated by the bees themselves; and a current of cold air passing under them at this time would be detrimental. As soon as the weather becomes sufficiently warm to warrant it, say about the first of May, or later, the cotton may be wholly withdrawn. I use cotton solely from its convenience; anything else that will effectually close the side will do as well. The bottom-board might be drawn up in close contact with the hive, and a separate opening made for the bees to enter, but it is objectionable. The currents of air from behind could not be obtained so easily, and the bees require an easy outlet, not above the surface of the bottom-board, in order to remove their dead, and other sources of pollution. The moth-worm always shows itself (wherever any foothold has been obtained) in the spring. Its object then is to find a convenient place under cover to wind itself up in a cocoon, from whence issues the winged moth, ready to commence its depredations. At this season, the bees may be seen, some half dozen, tugging away at a worm, and when they get one on the edge of the bottom-board, two or three will fly away with it some feet from the hive. Now, when the bees have to ascend some one or two inches from the bottom to get out of their hives, it is almost impossible for them to drag these worms out; but when the opening is flush with the bottom, and extending the whole side, these worms fall of their own gravity frequently, if not the bees soon clear them off. These worms often show themselves in hives in the spring, in small numbers, where no injury has been sustained by the stock, and they should not be regarded as ominous of serious evil.

Should the bees be placed in any situation cooler than that which is intended for them in the summer, such as on the north side of some building (which is a good plan in a mild winter), they should be kept in that position till permanent mild weather; but care should be taken not to leave them too long, as their spring increase might be greatly retarded thereby. The great object of every one should, at this season, be to get early swarms. One swarm in May is worth two in June.

From the 10th of May to the 10th of June, is the legitimate season of swarming in this vicinity, and it is the season of the greatest interest to the apiarist. Who has not watched his bees during this period with the greatest solicitude? Who has not felt a purer joy on beholding the heavens darkened by some powerful swarm, than if he had found a treasure? With what interest the eye follows the revolving cloud! Presently, a nucleus is formed

around some slender branch, which soon groans beneath the load that bends it down—then comes the new hive—a sudden shake of the branch—the animated mass falls alongside—they enter—the work is done!

T. B. MINER.

Ravenswood, L. I., February, 1847.

THE HORSE.—No. 4.

WE now take up the consideration of those parts of the frame of the horse which constitute his moving force, and give him his power. Although not in all instances determining his salable value, yet, in certain kinds of horses, these parts entirely do so. The muscles of the shoulders, back, quarters, and legs, are the means of motion, and these may all be perfect for this purpose, and the horse superior in his paces, and yet be very plain. Great moving power will not give beauty, for beauty and power are not necessarily connected, though beauty may mould the muscles to admirable figure and yet not detract from power. The horse for the coach, for show, parade, must possess style and gaiety; the trotter and racer need not; the sportsman only asks great muscular power to give rapid movement, and style and airiness, or lofty action, are nothing to him—the beautiful garran is worthless—the plain trotter, or racer, that will outpace and outlast competitors, almost priceless. If to great power, the horse add beauty, his price will be commensurate to his double excellence. We treat of the shoulder first.

THE SHOULDER.

The shoulder-blade lies on the side of the chest in front, and is narrow and roundish at its lower, and flat and broad at its upper end. It is divided into two parts on its outer surface by a projecting ridge running nearly its whole length. This ridge gives additional strength, while it adds but little weight, and affords increased surface for the attachment of muscles. The upper part, for the reason that no muscles are attached to it, is mere cartilage, although in old horses it sometimes becomes bone. The point of the shoulder lies opposite the first and second ribs; the rear part of it extends as far back as the seventh rib, and of course the shoulder is oblique along the chest, running backward and upward.

The shoulder-blade has no bony union with the chest, but is connected by muscle alone. Had it been otherwise, the vital parts, the heart and lungs, must have had a different construction to withstand the shocks to which they would be subjected; and indeed, even the bones themselves would not be of sufficient strength to remain unbroken. There is one muscle, called the great saw-shaped muscle, with very remarkable tendinous fibres, and of immense strength, attached to the chest and to the extensive smooth inner surface of the shoulder-blade, and which, assisted by the muscles of the breast, supports the body, and sustains the shock of the greatest leap or most rapid motion. The muscles within the shoulder-blade act as powerful and safe springs. They yield, as far as necessary, to the force impressed on them, and by their gradual yielding destroy the violence of the shock of motion, and by their elastic power immediately regain the natural position. The shoulder blade and

the lower bone of the shoulder (*e* and *m*, fig. 11), are not connected together in a straight line, but form an angle with each other, and in the manner that the bones of the quarter and thigh are joined (same cut). This angular union of the bones of the shoulder and the quarter is similar to the arrangement of carriage springs, and gives the same ease of motion, and freedom from jolting. By this adjustment of the bones of the shoulder, and their muscular connexion with the chest, the shock arising from the weight of the body being thrown on the fore legs, is lessened or entirely broken.

The obliquity which this angularity of the junction of the bones gives, serves a variety of purposes; one is to give the power of extension, and the greater the extension the greater the ground covered, and the faster the pace. Hence it is, that for rapid motion, a great obliquity is necessary; another is, that it places the fore legs further forward and secures a better balance, rendering the horse less liable to stumble. But these we do not propose to discuss here, as it will be more proper at another stage of the subject. This obliquity, as it lengthens the blade, furnishes more space for the attachment of muscles, and this gives greater power. Had the shoulder-blade been upright, it must have been shorter, and there would have been less room for muscular attachment, and of course less muscular power. The muscles of the shoulder extend and bend the leg in progression, and their power will be the greater if they be greater themselves; the obliquity of the shoulder secures this greater muscular means. Not only is greater power obtained, but greater security in the union of the shoulder-blade to the chest, by reason of the greater muscular attachment.

At the union of the shoulder-blade with the lower bone of the shoulder, there is a bony projection, called the point of the shoulder; it is round and blunted. The fig. 11, in February number, will show it, at, in front of, and above *m*. The neck of the shoulder-blade there forms a shallow cavity, into which the head of the lower bone is inserted. This cavity is shallow to allow of extensive motion. As the bones are those of motion peculiarly, and their motion necessarily connected with that of each other, a shallow cavity also lessens, or perhaps entirely prevents, dislocation. A ligament, extending round the heads of both bones, confines them securely in their joint together. If this joint should be dislocated, it would be impossible to reduce or put it in, as the ligament and the muscles of both bones are so very strong.

The Muscles of the Shoulder.—We proceed now to the discussion of the muscles of the shoulder and fore leg. All the muscles are in pairs, on each side of the horse, and what is said of one applies to both.

At the top of the shoulder there is a muscle (called by anatomists *trapezius*, and seen at *a* and *b* in fig. 26), which is attached to the projecting bones, which form the withers. Its union with these bones is very broad and strong. It also is united to the ligament and the muscular expansions of the neck (called *fasciæ*). It grows narrow as it proceeds downward, and is inserted on to a tubercle (or point of fastening) on the ridge of the shoulder-

blade, where it ends almost in a point. It occupies the space between the withers and the upper part of the shoulder-blade. It is large and strong in proportion to the height of the withers and the slanting of the shoulder. It supports the shoulder-blade, raises it, and draws it back. Attached to the immovable withers, it moves the movable bone of the shoulder to accomplish motion. As it is so important for motion it should be large, and hence the necessity for high withers and obliquity of the shoulder-blade, that it may be large. The withers should have some fleshiness about them, to give this fullness of muscle. Otherwise, the high wither and oblique shoulder will want their proper muscular force to secure proper motion of the shoulder blade.



MUSCLES OF THE OUTSIDE OF THE SHOULDER.
FIG 25.

At *c*, fig. 25, is a portion of the muscle called the *shoulder raiser*. Descending from the head, it attaches itself to the first four or upper bones of the neck, and to the ligament of the neck. It is inserted into the muscles of the shoulder, and of the shoulder point (at *f'*, fig. 25), and ends by attaching itself on to the ridge and the body of the shoulder-blade. Its uses and powers are immense. It raises and draws forward the shoulder and the arm of the leg in motion, and when the horse is standing turns

the head and neck, if the muscle on one side only is used, and lowering the head and neck if those of both sides be used, as before mentioned in No. 2 of our series.

At *d*, fig. 25, is a portion of the great saw-shaped muscle before mentioned. It lies between the shoulder and the side of the chest. It is an external muscle, on the lower part of the neck, and there constitutes the bulk of the neck. It disappears from its outside position, and passes in between the shoulder-blade and the chest. It is deeply seated, and springs from the fourth, fifth, sixth, and seventh bones of the neck, and is attached to the first eight ribs on the inner side and on to the shoulder-blade on its outer side. Its size is immense, as it needs be, for it holds the shoulder to the chest and supports the body on the legs in front. This muscle has still another use. Like the intercostal muscles, it assists in breathing, as it acts powerfully to expand the chest.

At *e*, fig. 25, is seen a portion of the *splint-like* muscle, described at page 76 of the present volume. Its office is to raise the head and neck.

At *f, f'*, lies a muscle (sometimes called a part of the shoulder raiser), which starts from the tubercle (or nipple-shaped elevation) of the bones of the temple. It runs down the fore and under part of the neck, is inserted on to the upper and middle part of the lower bone of the shoulder, and from thence is continued down to the arm. Its purpose is double; when the horse stands it bends the head; when he moves it raises and brings forward the arm of the leg. As the speed in motion is greater or less, so is its action.

In fig. 25, *g* represents a part of the muscle extending from the lower jaw to the fore part of the chest. It is described at page 76, second column. It bends the head and lowers it. *k* is the principal part of this muscle, extending from the shoulder-blade to the lower bone of the shoulder. It serves to draw the lower bone back and upward towards the shoulder-blade, and assists to bend the leg. Great action is required of it, and therefore it is very tendinous. Its position gives it great mechanical advantage, and when the shoulder is quite slanting it is still more powerful.

The muscle at *i*, fig. 25, in front of the ridge of the shoulder-blade, is situated on the outer and front part of the shoulder. It is attached to the lower bone of the shoulder also, and to a bony ridge extending from it to the ligament of the shoulder joint. Its office is to bring forward, bend, and give an outward motion to the lower bone of the shoulder.

The muscle *j*, fig. 25, situated behind the ridge of the shoulder-blade, occupies the space there. It is inserted into the outer and upper head of the lower bone of the shoulder. It draws this bone outward and upward.

At *h*, fig. 25, lies the *small breast muscle*. It is common to the breast and shoulder-blade. It arises from the breast bone and extends to the covering of the shoulder joint, and the muscles of the shoulder. It has an action in common with the great breast muscle.

The *great breast muscle* is situated at *n*. Its office is to draw the lower part of the shoulder-blade and the head or upper part of the lower shoulder bone,

backward, to give to both these bones a more upright position. Its action is in common with and for the same purpose as the *small breast muscle*.

q, shows the tendon of the *long extending muscle* of the arm. It is a very important one; it reaches from the upper angle and the back edge of the shoulder-blade to the point of the elbow and the inside of the arm. Its office is to extend the leg.

At *r*, *r*, *s*, are three divisions of another *extending muscle*, whose office is the same as the *long extending* one. It is called the *short extensor*. It springs from the shoulder-blade and the lower bone of the shoulder, and attaches itself to the point of the elbow by a very strong tendon. The upper *r* goes from the shoulder-blade to the point of the elbow; the lower *r* goes from the upper part of the lower bone of the shoulder to the elbow; and *s* goes from the inner part of the lower shoulder bone to the elbow. Lower *r*, and *s*, are very strong and short muscles. They are very powerful agents in extending the leg.

y, presents the *external muscle* for bending the arm. It arises from the lower shoulder bone and the inner and back part of the neck, passes across the lower shoulder bone obliquely, and round it, and inserts itself into the inner and upper side of the bone of the arm.

The Lower Bone of the Shoulder.—This bone makes a joint with the shoulder-blade, and runs downward and backward from the point (which is at the joint) of the shoulder. It is a strong one; it has a large round head, inserted into the shallow cavity of the shoulder-blade. There is no joint in the body which allows more varied and extensive motion than this. The lower bone has several branches or elevations (tubercles) on to which muscles attach themselves; it has at its lower end two heads, between which the upper end of the large bone of the arm is inserted, making the elbow joint. This is a joint which must be strong and secure, and hence its peculiar formation. It only admits of backward and forward movement in a straight line, without side motion. It plays backward and forward in the bending and extension of the arm. Behind the elbow joint these two heads receive the elbow deep between them, to give more extensive action to the arm. The lower shoulder bone should be short; indeed, can hardly be too short. The shorter it is the further forward is the leg. When it is too long it is nearer the horizontal line, and the leg is thrown too far under the horse, and the shoulder-blade is made too upright. In consequence the whole forehand is too heavy.

We have described all the muscles of the shoulder together, as the shoulder is commonly spoken of as a whole, and as the muscles are so intimately connected.

THE MARL DISTRICT OF VIRGINIA.

THE Marl District of Virginia comprises that portion of the State which lies between the Chesapeake Bay and the falls of the rivers that empty into it; but in many places it does not extend quite to either extreme. Nor is it confined to Virginia, but is found in all of that strip of country between the Atlantic Ocean and the falls of the rivers from the Potomac to the Gulf of Mexico. I shall confine my remarks to that section which lies in Virginia.

It is found in the sides and bottoms of ravines, with which the land near the rivers, creeks, and branches is much broken. It is also found in the beds of *branches*, which are better known to your northern readers as *brooks*. In some places, it is found almost at the surface, and in others, at the depth of several feet, though rarely at a greater depth than four feet, except on the level and unbroken land, where it generally lies at least fifteen feet below the surface. It is composed of marine shells, of a great variety of shape and form, intermingled with silica, and sometimes slight traces of green sand and gypsum. The quality of the marl is governed by the kind and quantity of shells. Some do not readily decompose on exposure to the weather, and others entirely decompose on exposure to one or two rains; and those kinds which readily decompose, are of course the most valuable, and fortunately the most plenty. I think the kind known to geologists as the *Chama Congregata*, are the principal ones, and comprise more than one-half of the marls of Virginia. The shells are nearly pure carbonate of lime; and the marl, upon analysis, furnishes from thirty to eighty per cent. of that substance, varying with the number of shells it contains. It is only within a few years that these marls have been used to any extent as fertilizers of the soil. A few individuals made experiments many years ago, with no apparent benefit, and it was given up as worthless, until Mr. Edmund Ruffin, of Prince George, commenced his experiments.

Mr. Ruffin had a large quantity of land, which by long and severe cropping had become like the rest of Eastern Virginia, so poor that it hardly paid in its returns the cost of cultivation. After many fruitless endeavors to sell his plantation, and remove to the fertile lands of the southwest, he turned his attention to the rich marl deposits with which his land abounded. Knowing that lime was one of the principal ingredients in the marls, he also knew that lime was essential to the growth of all kinds of agricultural productions, and its application was generally recommended by the best scientific and practical farmers on both sides of the Atlantic; he further ascertained by analysis, that his soil was almost entirely destitute of calcareous matter. All of these facts satisfied him that the marl was valuable, and would prove beneficial. He applied it in different quantities and on different soils, on nearly every one of which it proved highly beneficial. He continued its use some years very successfully. In the meantime, he procured and analysed soils from different portions of the state, and he found them almost entirely destitute of calcareous matter; and he found, by experiment and inquiry, among his brother farmers, that with the exception of the rich river bottoms, the land upon some of the rivers where the Indians had for centuries been depositing oyster shells, that no permanent improvement could be made without the aid of calcareous matter. Clover, which before would hardly grow at all, without a heavy dressing of putrescent manures, grew luxuriantly upon the application of marl; and one or two crops of clover fallowed in, not only produced fine crops of wheat, but materially altered the appearance of the soil, changing it from a light-colored or greyish, to a dark brown, or chocolate color; it also made a perma-

ment change and improvement in the soil, which could be made by no other means.

Mr. Ruffin has published a work on calcareous manures, which has been of incalculable benefit to Eastern Virginia, and might be profitably read by every farmer in the United States. He there not only proves the utility and benefits of lime in Virginia, but everywhere else, where it does not already exist in the soil. He gives a more satisfactory reason why gypsum does not act on so large a portion of our Atlantic coast, than I have ever seen elsewhere. He applies his remarks particularly to Virginia, but they are, I think, as applicable in other places. He calls all the soils of Eastern Virginia acid, with the exception of the river bottoms; those he calls neutral soils. He calls these soils acid, because there is generally a strong disposition to produce sorrel. He says, that after cutting down the young pines that grow up in old fields, and letting them remain until the leaves rot, where each pine lies, will be found a vigorous growth of sorrel, which will continue to grow on the land until lime is applied. I here make a short extract from his work, which will give his reasons why those lands must be limed, before gypsum will be beneficial.

"If the vegetable acid, which I suppose to exist in what I have called acid soils, is not the oxalic (which is the particular acid in sorrel), at least every vegetable acid being composed of different proportions of the same elements may easily change to any other, and all to the oxalic acid. This, of all bodies known by chemists, has the strongest attraction for lime, and will take it from any other acid which was before combined with it, and for that purpose the oxalic acid will let go any other earth or metal which it has before held in combination. Let us, then, observe what would be the effect of the known chemical action of these substances on their meeting in soils. If oxalic acid was produced in any soil, its immediate effect would be to unite with its proper proportion of lime, if enough was in the soil in any combination whatever. If the lime was in such small quantity as to leave an excess of oxalic acid, that excess would seize on the other substances in the soil in the order of their mutual attractive force, and one or more of such substances are always present, as magnesia, or more certainly iron and alumina. The soil, then, would not only contain some proportion of the *oxalate of lime*, but also the *oxalate* of either one or more of the other substances named. Let us suppose gypsum to be applied to this soil. This substance (sulphate of lime) is composed of both sulphuric acid and lime. It is applied in a finely pulverized state, and in quantities from a half to two bushels per acre, generally not more than one bushel. As soon as the earth is made wet enough for any chemical decomposition to take place, the oxalic acid must let go its base of iron or alumina, and seize upon, and combine with, the lime that formed an ingredient of the gypsum. The sulphuric acid, left free, will combine with the iron or the alumina of the soil forming copperas and alum in the other. The gypsum no longer exists."

Do not the same reasons exist in New Jersey and on Long Island? Sorrel most certainly grows; but is there an absence of lime? My own opinion without an analysis is, that it exists in but small

proportions, if at all. Lime has been used considerably in New Jersey, but to a very limited extent on Long Island. If any of the New Jersey or Long Island farmers have not used gypsum since they have limed their land, they had better make the experiment, and communicate the result through your or some other Agricultural Journal. There are hundreds of farmers in Eastern Virginia, whose experience and observation fully confirm Mr. Ruffin's theory. With the aid of the marl and clover, this section of Virginia will become one of the richest and most productive agricultural districts in the country. The soil, though generally light, stands on a retentive clay subsoil, which enables it to retain near the surface all the manure that is applied. Connected with these advantages, it has natural facilities for transportation superior to any section of country of equal size in the United States. There is hardly any portion of it that is more than ten miles to navigation; yet with all these advantages, this region, until recently, has been entirely overlooked and neglected. One reason of this is, the unhealthiness of the climate in the latter part of summer and the fall until frosts come.

But another equally good reason is, that the system of farming has been such that no land could fail to be exhausted. Cropped until it could no longer pay the expense of cultivation, and then turned out to grow up in pine; and after it has remained in that condition until it is supposed to have recovered a portion of its lost fertility, it is again cleared and brought into cultivation. But the spirit of improvement has begun to have its effects, and a regular system of farming has been adopted by the most intelligent portion of the farmers.

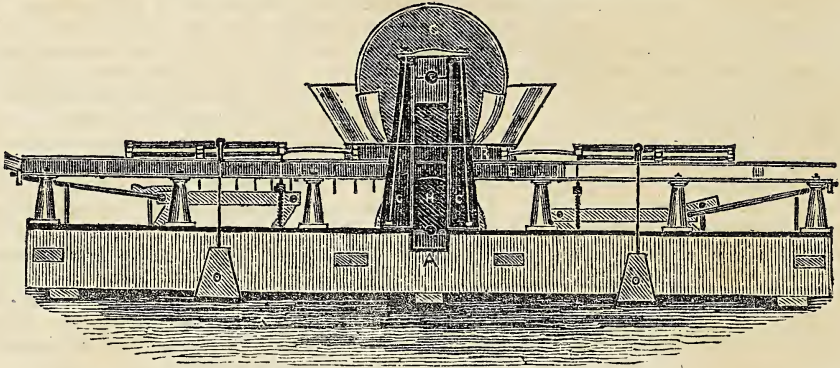
There are different systems of cultivation, but that known as the *three field*, is most commonly adopted. This is as follows: 1st, corn; 2d, wheat, taking the corn off soon enough to sow in the fall; 3d, clover sown on the wheat in the spring, and grazed as little as possible, and followed in the fall and replowed in the spring for corn; so that two grain crops are taken from the land in three years; and if the land is marled and attention paid to making manure, as hauling into the farm pens pine litter, rich earth from the corners of fences, and occasionally a little marl scattered over, some farms will improve at that. Where the land is not stiff and rich enough to produce wheat, oats are frequently substituted. But in my opinion, the radical error of their system of farming, is the neglect of grass cultivation, as meadows and pasture fields, and the neglect of cattle. The general opinion among the farmers of that region is, that grasses, such as timothy, or herds-grass, will not grow well, and cattle are not profitable. The idea that grasses will not grow is all conjecture; they can be grown there as well as at the north. I have never known an experiment properly tried and fail; and the fact that clover succeeds, is evidence to me that other grasses can be successfully cultivated. Any amount of proof of this can be obtained if desired. The old Dutch maxim that grass makes cattle, cattle makes manure, and manure makes grain, is entirely lost sight of by those farmers. Some of them, however, are finding this out and reforming. There is a strong desire in many portions of this region to introduce northern farmers. Land is cheap—from \$3

to \$10 and \$15 per acre, according to its location. But the unhealthiness of the climate is a serious objection, unless he goes there with capital enough so that he can afford to leave in the sickly season. I believe that many of your northern farmers, with ten thousand dollars well invested in land upon some of those rivers, with their systems, energy, and industry, would, after spending all the sickly seasons away, have more money left at the end of the year than they would with the same amount invested at the north, at the present price of land there. The leaving his farm some two or three months in a year to the management of an overseer, may not at first be favorably received by your northern man, but when he considers that his

wheat is harvested and probably threshed, and his corn crop is laid by and made before the sickly season commences, he will see that his services can be spared at that time as well as at any other in the year; and furthermore, that many of the best cultivated farms in Virginia are thus deserted by their owners every year. The health of this region will undoubtedly improve as the land is cleared and marled, marshes drained, &c., and perhaps your readers are not aware that not more than one-third of this whole region is cleared.

I fear that I have taxed you and your readers' patience with this long and imperfect article; but I feel that I have hardly done justice to the subject, even with the space I have occupied. L.

CULBERTSON'S DRY CLAY BRICK MACHINE.



DRY CLAY BRICK PRESS.—FIG. 26

VARIOUS efforts have been made in this and other countries to apply machinery to the manufacture of bricks, for the purpose not only of economizing time and labor in the process, but to secure an exactness of shape and edge not attainable in moulding by hand. In these experiments the practicability of making bricks by compressing clay in its crude state appears to have been fully tested by a machine recently patented by Mr. T. Culbertson, and now in operation in Cincinnati. This machine is driven

by a steam-engine not exceeding six horse power, attended by 12 to 15 men, according to the difficulty of digging the clay, who can make and stack in the kiln, ready for burning, from the undug clay, 3,000 bricks per hour, at a cost of 50 to 60 cents a thousand. These bricks may be burnt with wood, or by hard or soft coal with a blower attached to the engine, which, together with one of the machines, will be put in operation in or near this city early in May.

NEW YORK FARMERS' CLUB.

Soiling of Cattle.—The most important subject discussed by this club since our last report was on the soiling of cattle.

Dr. H. A. Field read an elaborate paper on the subject, after which he remarked that he felt incompetent to express himself as he wished. He said that the cows on his farm were kept in warm stables during the winter, where, by attention to this circumstance, and giving them proper food, they afforded a continual supply of milk. He recommended the parsnip for early spring feeding, which he said has great advantage over other root-crops, as it is not necessary to harvest it in the fall, for it is not destroyed by exposure to the frost, but is rather improved in being left all winter in the ground. He said, as the question of soiling, in

reference to its attendant expenses and profits, in different parts of the country, is imperfectly understood, and as it is necessary that the subject should be systematically pursued, he would offer the following resolution:—

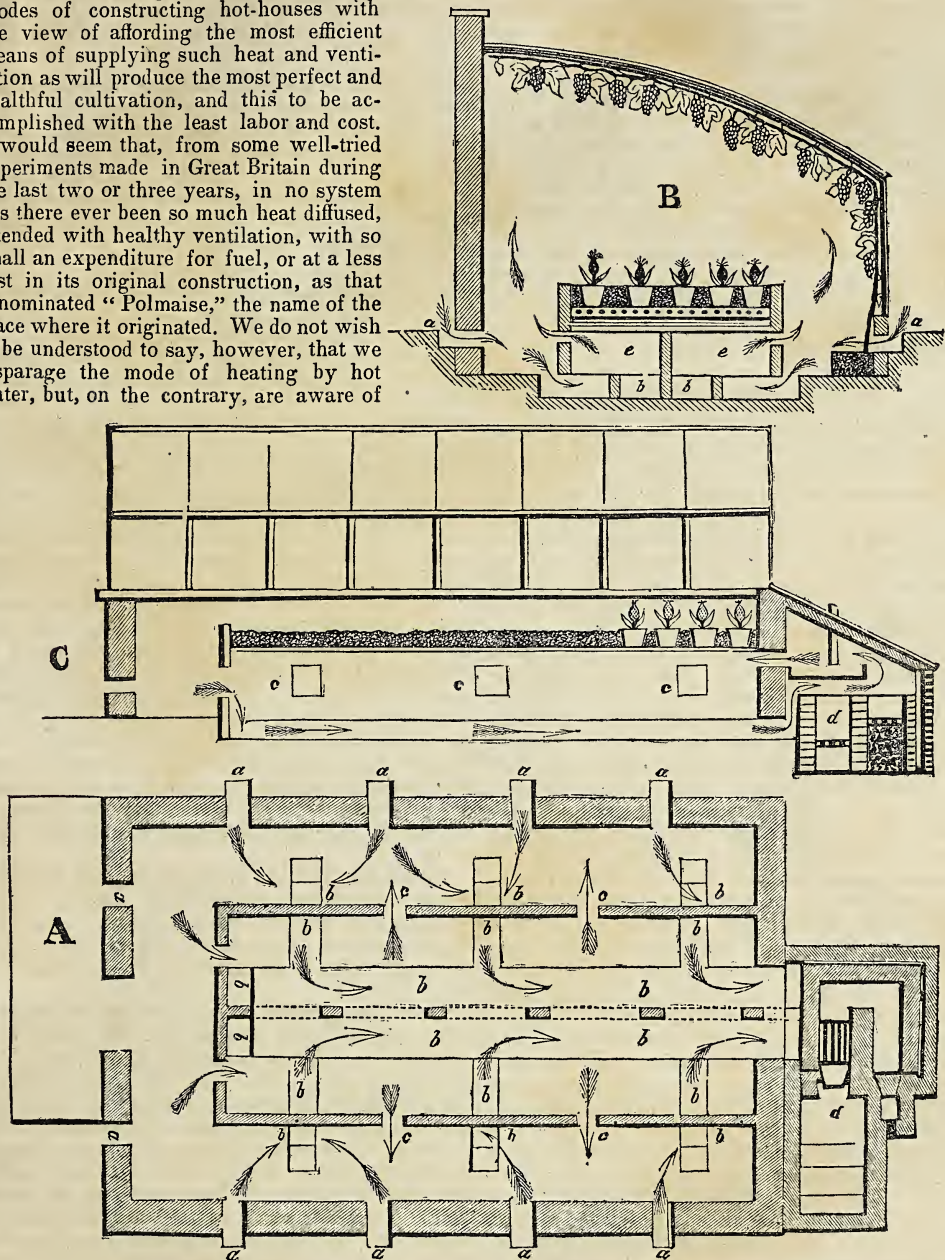
Resolved, That a Committee be appointed by the club for the purpose of making comparative estimates of the expenses and profits of soiling, or stall-feeding cows in the southern district of New York—with the modes of treatment, nature and application of food employed,—to report at the National Convention of Farmers, Gardeners, &c., to be held in this city, at the next annual Fair of the American Institute.

The Resolution was *unanimously adopted*.

The Committee was appointed by the Chairman, viz:—R. L. Pell, Dr. H. A. Field, Dr. R. T. Underhill, Judge Van Wyck, and J. L. Hyde.

CONSTRUCTION OF HOT-HOUSES.—No. 2.

Polmaise Heating.—There are various modes of constructing hot-houses with the view of affording the most efficient means of supplying such heat and ventilation as will produce the most perfect and healthful cultivation, and this to be accomplished with the least labor and cost. It would seem that, from some well-tried experiments made in Great Britain during the last two or three years, in no system has there ever been so much heat diffused, attended with healthy ventilation, with so small an expenditure for fuel, or at a less cost in its original construction, as that denominated “Polmaise,” the name of the place where it originated. We do not wish to be understood to say, however, that we disparage the mode of heating by hot water, but, on the contrary, are aware of



POLMAISE PLAN—AND ELEVATION OF A HOT-HOUSE.—FIG. 27.

its excellence and advantages; and we think it would be very unwise in any one having a good hot-water apparatus to pull it down for the sake of substituting the Polmaise. “Let well enough alone,” is an excellent maxim; but do not allow it always to prevent striving to do better.

Description.—The plan of the house, A, shows the cold-air entrances, cold-air drains, hot-air cham-

ber, and entrances for air into the house, with furnace, chimney, and direction of currents; *a, a*, cold-air entrances, covered at pleasure with horizontal lids outside of the house (these entrances, in cold weather, are generally kept closed, being only occasionally opened); *b, b*, cold-air drains, covered at pleasure with sliding covers, made of slate; *c, c*, entrances for hot air into the house, which may

likewise be covered at pleasure with doors sliding along the face of the pit; *d*, the furnace.

The section, B, denotes the bottom-heat chamber, cold-air drains, and direction of the currents; *a*, the entrance for cold air; *b*, cold-air drains; *c*, bottom-heat chamber.

The longitudinal section of the house, C, shows the hot-air chamber, furnace, built of Stourbridge bricks and surrounded with two inches of sand, and covered over with an iron plate in three widths, from three-fourths to an inch thick, with a rim projecting from its under edge all round to fall into the groove in the top cornice of the brick work, which is to be filled with sand; the cistern is made of iron, four inches deep, in two divisions, and fed through a pipe from above; the roof has a cavity to be filled with saw-dust, to prevent the escape of heat; *c*, entrance for hot-air; *d*, furnace.

CULTURE OF POTATOES.

In looking over the *Agriculturist* for February, I noticed your article entitled "Farmers, send in your Facts." Not being much of a farmer, I should certainly not have written a word, but you say, write be it ever so homely. Although I have no large crops to boast of, not having measured them, and not liking to guess, I have concluded to send my experience in planting potatoes, and inform you of their escape from the disease—with the exception of one variety—so prevalent in our country.

In the year 1845, the ground, which was sward, was turned over and planted with corn, excepting four rods square, reserved for experimenting on the coming summer. I had read several accounts that potatoes planted early would not be diseased. I accordingly, as quick as the land would possibly do, commenced operations, plowing and harrowing thoroughly. The ground was a light loamy soil containing a little more than an acre, on which were spread broadcast, twenty-five cart-bucksful of stable manure, evenly over the surface. The land was then struck into ridges, and about the first of April planted with Meshannocks, English-whites, blue-eyes, Sandy-lakes, and Scotch-greys; the Meshannocks occupying the turf ground. The potatoes were cut through the centre, and one half placed in the hill with a table spoonful of plaster. The mode of cultivation was exactly alike. The potatoes were planted two and a half feet each way, plowed and hoed twice, nothing more done to them till digging. The Meshannocks were badly affected with the rot, not more than one-quarter of them were sound. In some hills there was not a sound one in them, in others there were half a dozen in them. The other varieties were not affected at all; they were most all of large size. In another lot I planted in May, they were most all decayed. These were planted on meadow land, consisting of a dark, damp soil, turned over the fall before; it was treated in the same manner, and planted with the same kind of potatoes as the former.

Now, Mr. Editor, can you tell me why one variety should be so affected and the others not? I have come to the conclusion that if we raise potatoes without disease, we must plant them early and on dry, warm soil, and not manure too highly. Have I come to the right conclusions? (a) I do

not believe it is an insect, for, if it were, why would not one part be affected as another. I think it is more in the land than anything else.

A FARMINGTON FARMER.

(a) So far as avoiding the use of rich putrescent manures is concerned in the culture of potatoes, our correspondent is right; but as to the other matters, it would be impossible for us to give any satisfactory opinion at present, not knowing the state of the seed potatoes, whether healthy or diseased; the quality of the soil; and other circumstances necessary to assist our judgment.

ORIGIN AND APPLICATION OF GUANO IN PERU.

Guano (or, according to the more correct orthography, *Huanu*) is formed of the excrements of different kinds of marine birds, as mews, divers, sheerbeaks, &c., the immense flocks of which, as they fly along the coast of Peru, appear like clouds. When their vast numbers, their extraordinary voracity, and the facility with which they procure their food, are considered, one cannot be surprised at the magnitude of the beds of Guano, which have resulted from the uninterrupted accumulation during many thousands of years. It is found on all the islands, and on most of the uninhabited promontories of the west coast of South America, especially in those parts within the tropics. It occurs in enormous layers of from 35 to 40 feet thick. The upper strata are of a greyish-brown color, which, lower down, become darker. In the lower strata, the color is a rusty red, as if tinged by oxide of iron. The Guano becomes progressively more and more solid from the surface downwards, a circumstance naturally accounted for by the gradual deposit of the strata, and the evaporation of the fluid particles.

During the first year of the deposit, the strata are white, and it is then called *Guano Blanco*. In the opinion of the Peruvian cultivators, this is the most efficacious kind. It is found in the Punta de Hornillos, on the islands of Islay, Jesus, Margarita, &c.

Much has recently been written on the employment and utility of Guano; but the manner in which it is applied as manure, in Peru, seems to be but little known. The Peruvians use it chiefly in the cultivation of maize and potatoes. A few weeks after the seeds begin to shoot, a little hollow is dug round each root, and is filled up with Guano, which is afterwards covered with a layer of earth. After the lapse of twelve or fourteen hours, the whole field is laid under water, and is left in that state for some hours. Of the *Guano Blanco*, a less quantity suffices, and the field must be more speedily and abundantly watered, otherwise the roots would be destroyed. The effect of this manure is incredibly rapid. In a few days the growth of a plant is doubled. If the manure is repeated a second time, but in smaller quantity, a rich harvest is certain. At least the produce will be three fold that which would have been obtained from the unmanured soil.—Translated from Dr. Tschudi's late *Travels in Peru*.

MOUNT AIRY AGRICULTURAL COLLEGE.

THE undersigned having for a series of years devoted himself to the pursuit and practice of agriculture, and having with deep concern regarded its condition as a profession or calling, could not but perceive that there was wanting, something indispensable to give character and energy to an occupation acknowledged to be the most useful, and embracing in its extended range the most numerous class of the people in these United States. He has therefore been long convinced that the great desideratum to be supplied, is an education, commensurate with the high destinies of the landed interest—a training in rural economy pending the progress of the student in literature, so that when he shall graduate, he may not only have achieved the usual attainments acquired in mere literary institutions, but exhibit a thorough and well grounded knowledge of practical and theoretical agriculture and horticulture, and possess in a superior degree, the presumable addition of good health and habits; being thereby the better fitted to enter upon the general duties of life, or into any profession as well as that of agriculture. This presumed felicitous condition of the graduate needs no demonstration, for it must be admitted, that the training and exercises of a properly conducted agricultural college, will be naturally promotive of the priceless blessings of robust health, industrious habits, and a well regulated mind.

In the eastern and middle States many laudable efforts of late years have been made to improve and elevate the position of the farmer, but in the main all have proved futile. In vain were clubs and societies formed; these could but invoke or inspire others to associate, and spend, as they did, a little time and money in the cause; for all must now perceive that education is the one thing needful, without which all efforts are unavailing, in furtherance of the great object in view. In vain did capitalists, charmed with the rural, and desirous of setting an example, purchase farms and quit the cities; for they soon returned in disappointment, if not in disgust. Why? Because they had not been fitted by education for the pursuits of agriculture. They had to depend on hirelings, and no money could procure, for it is not procurable, the intelligence and skill adequate to the superintendence of the yards, stables, and stock—the soils and manures—the crops and cropping. Every planter or owner of a farm, should therefore be able to direct and instruct in all the leading interests and operations on his estate, for it is as much as he can hope, or under the circumstance expect, if his laborers carry out his orders in the detail.

To educate youth in the leading branches of popular learning as taught in our colleges, with the addition of practical and theoretical agriculture and horticulture, with their attendant sciences, the undersigned contemplates founding an agricultural college at Mount Airy, his residence, eight miles from the city of Philadelphia, a site favorably known for its healthiness and beauty, and as having, until recently, been for many years a seat of learning, and now, in gardens, grounds, and buildings, admirably suited for the purpose.

Students will be admitted at ten years old and upwards. The younger pupils in the elementary branches of the scholastic department will receive special and particular attention. The more advanced in years and learning, on entering, will be classed according to their qualifications, and all will be carried forward as rapidly and understandingly as practicable, to a perfect and thorough completion. In the agricultural department, a similar classification will be made in view of the age and capacity of the students, and their exercises proportioned accordingly. Each little boy will have his budding and pruning knife, his miniature rake and hoe, and in fine weather will daily repair to the gardens and nurseries, and there be taught the nomenclature of plants, flowers, &c., their culture, habits, and properties,

and the necessary manipulations of producing; after an hour spent in this healthful recreation, he will return to the class-room, and resume his studies. As he advances in years and strength, he will be introduced to the more weighty and important concerns of agriculture, in which the senior classes will be engaged. The exercise or labor of all, however, will amount to no more than will be deemed necessary for healthful recreation and change, to diversify and lighten the monotonous and depressing drudgery of the mere student. In this way, by a varied course of study, rural exercise, and popular lectures, it is intended to accomplish the important work, and to give to agriculture an impulse that cannot fail to raise it to the rank it should assume, and ought to hold throughout the land.

The graduates of this college will be scholars, and gentlemen, who if they inherit an estate will know more than their gardeners, overseers, or land stewards,—be conversant with the breeds, character, and properties of stock,—the mechanism and use of implements,—the quality of soils, and the adaptation of manures, and withal, practical surveyors; while the taste acquired for rural life, will render the management of their plantations a pleasing occupation, combining both pleasure and profit. If, on the other hand, they should have to acquire an estate, what other graduates could hope to compete with them in the acquisition of property and honorable fame?

These views are respectfully submitted by way of prospectus, affording a glance at the aims and merits of the contemplated institution, and for the purpose of eliciting such share of patronage as will encourage the undersigned to carry out his long cherished design. If, therefore, eighty students shall offer, on or before the first day of July next, he will open the college on the first day of September following, with a faculty combining the best talent, both in literature and rural economy.

The terms will be *two hundred dollars* per annum, for board and tuition, payable half-yearly in advance—no extras, except for modern languages, for which it may be necessary to make some additional charge, all of which, when properly matured, will be stated in a prospectus, when the requisite number of students shall appear to be forthcoming.

Parents wishing to avail themselves of this plan of educating their sons, will please address James Gowen, Mount Airy, Philadelphia, stating age and acquirements in learning. It is requested that early application be made, as the opening of the college is contingent upon the number of students offering, and as much of the *matériel* necessary to its perfect organization must be withheld until it is ascertained that sufficient patronage will be accorded.

A word, as to the undersigned himself. To those who know him, it is needless to say, that this great undertaking is prompted by no interested motive whatever; for all the capital to be employed, and all the trouble and anxiety incurred, he expects not a dollar by way of profit or remuneration for his services. He therefore wishes to stand in the proper attitude before all, and leave to all the means of making a fair estimate, and coming to a proper determination so far as they may feel interested.

Philadelphia, Feb. 22d, 1847.

JAMES GOWEN.

We take great pleasure in commending Mr. Gowen's noble enterprise to the public, and can assure them that they may place every confidence in his plans. He is a gentleman of ample means; of a liberal and enlightened mind; of great perseverance; and whatever he promises, will be faithfully performed. His farm at Mount Airy is one of the best in the United States, it having been cultivated on the most enlightened and scientific principles for many years. Now is a golden opportunity for parents to properly educate their boys; for whatever be the profession of the man, a knowledge of the principles of agriculture will be of great service.

LETTERS FROM THE SOUTH.—No. 6.

NEW ORLEANS has a character and position as distinct and peculiar, as the territory of which it is the commercial, and up to the present time, has been the legislative capital; (a) and as the natural *dépôt* for two-thirds of the productive area of the United States, a brief notice of it may appropriately occupy a place in an agricultural journal.

De Soto, in 1539 or '40, was undoubtedly the first European who traversed the country bordering upon the outlets of the Mississippi; but like all the early Spanish adventurers, his object was gold and the precious metals, and he has left no observations on the country worthy of attention. In 1674, Joliet and Marquette, two French traders from Canada, discovered the river *via* the St. Lawrence, the great northern lakes, the Fox and *Ouisconsin* (as it formerly was and always should be written). In 1682, La Salle, Father Hennepin, and Tonti, entered the river from the same starting point, *via* the the lakes and the Illinois. La Salle explored it to the mouth, and Hennepin above the Falls of St. Anthony. The latter soon after went to Europe and published an account of his discoveries, and named the whole region about the mouth and west of the river, Louisiana. La Salle returned to Canada, and thence to Europe, where he fitted out a small squadron, for the purpose of establishing a French colony on the Mississippi, but missing the mouths, he passed on to the Bay of Espiritu Santo, at the mouth of the Guadalupe, there landed in 1685, built a fort, and took formal possession of the country for the Crown of France. This bold and enterprising discoverer was murdered by his own men, in 1687, while pursuing with unwearied efforts the object of his expedition by land. In 1698, another expedition was fitted out in France, under D'Ibberville and his brother Bienville, who after coasting along the northern shore of the Gulf of Mexico, and visiting Pensacola (then a Spanish settlement), and Mobile Bay, finally entered the Mississippi and formed a settlement.

New Orleans was first occupied in the spring of 1717, where barracks were erected, and a city laid out and named from the then regent of France. It occupies the left bank of the river, in latitude 29° 57' N., and longitude 13° 9' W. from Washington. When it came into possession of the United States by purchase, in 1803, it contained about 8,000 inhabitants. In 1810 it had increased to 17,242. By the census of 1840, its population was 102,000, and it is now estimated at near 120,000.

This is a rapid increase within a comparatively short period; but those who predict a destiny for it far in advance of all other American cities, have not duly considered the past, or anticipated the future. If we take a period from the close of the late war, since which our national industry has become essentially modified, and *manufactures*, as well as commerce, have become important elements in the growth of commercial emporia, we shall find that Boston, Philadelphia, Baltimore, and even Pittsburg and Cincinnati, with their suburbs, have kept nearly an even pace with her in relative growth; while New York has immeasurably distanced her in the increase of wealth and population. If we look to the future, we shall see the mighty

efforts that the principal Atlantic cities are making (and which are fully sustained by the respective States they represent) to draw off to their own ports the rich products of the Mississippi valley. Already the Ohio is tapped by *five canals*, and one railroad; (b) the Mississippi will be reached from Lake Michigan, by a large canal the coming autumn; and a railroad from Philadelphia; and still another, with a canal terminating in Baltimore, will ere long stretch out their giant arms into the Ohio, to grasp the trade and products of the fertile West. And all this is but the *beginning* of the avenues which will be opened within the coming half century, by the indomitable energies of the East. Neither mountains nor valleys, neither distance nor expense, are any permanent hindrances to the progress of these highways of commerce; and although all may not be withdrawn by these commercial channels, yet enough will be diverted to check that rapid and excessive growth of New Orleans which some have so confidently predicted.

There are, moreover, some local hindrances here that will aid the incessant, uncompromising rivalry of the East. Its present somewhat insalubrious and enervating climate may be partially remedied by clearing and drainage, and a strict conformity both in habits and regimen to its peculiarities; the high rate of freights on the rivers (c); the excessive expense of vessels in reaching this port from the bar (d); and the onerous duties levied on most of the produce sent here, in the shape of inspection fees (e), may all be mitigated hereafter, and reduced to the lowest standard of remuneration for the necessary services rendered. But there is still the great objection that New Orleans is and for ever will be 1,000 miles farther from Europe than the northern cities; and consequently, freights, from this and other inevitable causes, must be much higher than from those ports. Manufactures will never become an important element in her growth; and without these, no city ever reached or long maintained an overshadowing ascendancy among enterprising rivals, where they were assiduously cherished.

Yet after abating so much from the overweening anticipations of some of her zealous sons, we may still concede a steady, rapid, irresistible growth to this large and enterprising city. Her advantages are manifest, and cannot, by any combination of events, be wholly inoperative. The navigable waters which flow past this city, drain a million and a half square miles of territory, more uniformly fertile than any other on the face of the globe. And nearly the whole of this is easily accessible for a large part of the year, by steamboats, through its numerous bayous, rivers, and lakes. These are generally navigable, too, at a season when the other avenues to the East are fast locked by ice, and soon after the products are gathered in, and the farmers and planters have most leisure to push them forward to a market. It is the only capital that can ever be established for an extensive region of fertile country immediately surrounding it, and which is destined ere long to contain a dense population; and if the peculiarity of its situation, and the circumstances which must for ever govern it, will not admit of its becoming one of mechanical or manufacturing im-

portance, the wants of its citizens and the adjacent country will make it the great mart of supply and demand for future millions of intelligent and affluent agriculturists.

Some idea of its rapid increase, and the magnitude of its present business, may be drawn from a bare enumeration of the receipts of some of the leading articles which seek their outlet here.

The following products were received in New Orleans during the years preceding the first of September:—

	1837.	1846.	Value in 1846.
Bacon, in casks and hhds.	1,456	37,305	
Ditto in bulk, lbs.	1,492,877	492,700	\$1,672,000
Bagging, pieces,.....	30,447	96,601	917,710
Bale rope, coils.....	21,256	56,678	255,051
Beans, bbls.....	5,519	16,585	66,340
Butter, kegs.....	7,369	44,172	203,580
Ditto bbls.....	199	1,494	
Beef, bbls. and tierces.....	9,859	62,231	580,784
Do. dried, lbs.....	130,646	98,200	
Cotton, bales.....	612,813	1,053,633	33,716,256
Corn, in ears, bbls.....	194,013	353,573	
Do. shelled, sacks.....	369,090	1,166,120	1,556,181
Cheese, boxes.....	201	57,392	114,784
Flour, bbls.....	253,500	837,985	3,770,932
Feathers, bags.....	152	4,607	115,175
Hemp, bundles.....	450	30,980	309,800
Hides.....	22,287	112,913	135,495
Hay, bundles.....	20,594	71,270	213,810
Iron, pig, tons.....	415	1,083	37,905
Lard, hhds., bbls., and kegs.....	207,489	442,653	2,729,381
Lead, pigs.....	260,223	785,394	1,963,484
Molasses, bbls.....	32,180	132,363	nearly 1,500,000
Oats, bbls. and sacks.....	249	269,386	202,039
Oil, linseed, bbls.....	249	1,135	31,780
Oil, castor, bbls.....	905	2,379	45,201
Oil, lard, bbls.....	26,599	2,608	49,514
Potatoes, bbls.....	115,580	107,058	160,587
Pork, bbls.....	531	369,601	
Do. hhds.....	8,939,135	9,988	3,666,054
Do. in bulk, lbs.....	93,109	9,740,752	
Sugar, hhds.....	28,501	73,896	5,100,000
Tobacco leaf, hhds.....	44,790	72,896	2,605,320
Whisky, bbls.....	6,422	117,104	936,832
Wheat, bbls. and sacks.....	10,487	403,786	807,572
Making, with other enumerated articles, a total value of			\$77,193,464,

including the *entire crop* of sugar and molasses made in the State (a part only of which was received in this city). The former is estimated at 9,000,000 gallons, and the latter at 185,650 hhds.

The crop of sugar is less this year than last, owing to excessive rains, frosts, and other causes; and the cotton crop will fall short of the previous one received at this port, some 300,000 bales. But in many articles, the receipts this year up to the present time, against those of the last to same period, show the immense stock which can be forthcoming when prices call it out. Since September 1st, there were received at this port, to Feb. 20th;—

	1846.	1847.
Bacon, in hhds. and tierces.....	7,992	22,761
Ditto in bulk, lbs.....	11,000	244,952
Corn, in ears, bbls.....	94,542	195,319
Corn, shelled, sacks.....	340,937	753,151
Flour, bbls.....	372,364	697,964
Oats, bbls. and sacks.....	102,240	221,885
Wheat, bbls. and sacks.....	10,487	78,125

The quantity of corn that will pour down into this market on the rise of many of the tributary streams, if present prices are sustained, will probably exceed the anticipations of the most sanguine. Millions of bushels, which at ordinary prices are lavishly fed to stock at home, will, at the extravagant rates now paid for it, be carefully husbanded and brought to market. From 30 to 50 cents is the usual range of prices for it here. At 105 to 110, for which it now sells, the Wabash, the Illinois, or the Tennessee River farmers, will

receive from 50 to 80 cents for it at home, instead of 10 to 15, an excess of three to six for one of the usual price. The temptation of these prices will be irresistible, and every road, every by-path, and every streamlet, will groan under the load of Indian corn, wending its way to the seaboard to replenish the exhausted granaries and supply the starving millions of Europe. The result of our this year's commercial operations, will fully demonstrate the value of the progressive improvements of the present day; and the aid, aye, even the *life-sustaining* aid which the new continent has yielded to the old. America will have more than realized the filial devotion of the young Roman matron, who gave back from the exuberance of her own breasts, that life she had herself received from her famishing sire.

R. L. ALLEN

New Orleans, Feb. 20th, 1847.

(a) The legislature meet in the city during its present session for the last time, the new Constitution having established Baton Rouge, 120 miles above, as the future capital of the State.

(b) The Philadelphia and Pittsburg, the Erie and Beaver, the Cleveland and Portsmouth, the Maumee and Miami, and the Maumee and Wabash canals, are already in successful operation; and the Cincinnati and Sandusky railroad will be completed during the present season.

(c) The freight from Pittsburg and Cincinnati to this place, is about the same that it will be from those cities to the seaboard, after the enlargement of the Erie canal.

(d) Vessels of 100 tons pay about \$100 for towage to the city from the mouth, and vessels of 1200 tons \$660, with a varying scale between these rates. Something less than half as much is paid for towing down.

(e) An intelligent commercial citizen estimates from authentic data, that the annual tax on produce here from inspections and their addenda, to come up fully to \$500,000 per annum.

REVIEW OF OCTOBER NO. OF THE AGRICULTURIST.

Popular Errors, No. 1.—One of the most popular, or, at least, common errors of the present day, is that of too much scribbling about nothing; I propose to correct my own errors, so far as I am guilty, by giving the three last No's. of vol. 5, a passing notice; and hereafter, I hope to be able to review each No. as it appears, in which I hope I shall not be so prolix as to be tedious to my readers.

As I shall be limited for space, I must only notice such articles, as I think I can add value to. The whole of these articles upon popular errors, are in excellent style, and I hope will be continued.

Trees and Shrubby Around the House.—The distance of "one hundred feet from the house," will prohibit all the dwellers upon village lots, from enjoying the luxury of trees, either upon the streets or lots; while nothing gives a more pleasing appearance, in the view of a country village, than towering trees. Besides, who ever knew a house struck with lightning, when surrounded with green trees? They are good substitutes for lightning rods. I consider your objections insufficient; for most of them may be obviated by improved culture. Therefore, I say

to all that own one single foot of ground, set out a tree, a shrub, or vine.

Tendency of Lime to Sink Below the Surface.—It appears to me, that all who are so far advanced in geological science, as to know how lime-stone is formed, must be aware that such will be the natural tendency of limeing land, to form itself again into stone, below the surface. It will, therefore, be found necessary to keep such lands constantly stirred.

Prices of Produce.—You say you hear much complaint among farmers, of the low price of produce. And do they not have reason to complain? I will take the article of wheat; the average yield in this state [New York], is about thirteen bushels per acre. What is the average price? I think seventy-five cents above the mark. This is grown upon land averaging \$25 in value, per acre, at least; a fair interest, including repairs of fences, &c., is ten per cent. This leaves \$7.25 per acre, to pay for seed and labor. Who will say that the price is not too low? At the West, the boasted wheat region of the West, the case is still worse. Having this matter in my mind, I wrote to a gentleman near Chicago, who is well known by name and good reputation to agricultural readers, for some facts in regard to wheat culture in that vicinity. He gives it as his opinion, that for six years, the average price of wheat in Chicago has not exceeded 50 cents a bushel; and that the average distance, that it has been hauled over very bad new country roads, is forty miles, in loads not exceeding an average of thirty bushels to the pair of horses; and that the average yield of all the broad acres sown, for six years, has certainly been less than ten bushels to the acre. Such being the fact, there is no wonder that the farmer complains that the price of his produce is *too low*. The price does not pay him twenty-five cents a day for his labor. It is "too low."

Economical Hay-press.—Although you think that the description "will be sufficiently intelligible to enable any ingenious carpenter to build one," I venture to assert, that not one in ten possesses ingenuity enough to discover how to build one like this, who never saw one, without further and more intelligible description. It is the principle upon which the press works, that should have been described, and not the size of the timbers—a very unimportant matter.

Show of the N. Y. State Ag. Soc. at Auburn.—I was sorry to find that the same charges against Auburn tavern keepers, were made at this show, as were made last year against those at Utica. Something is wrong, you may depend upon it, and a reformation upon this, and several other things connected with this society, must be had, or I predict a general "blow up." Let the managers look to it. In regard to the *trial of plows*, I beg leave to suggest the propriety of appointing a standing committee, to make a full and perfect trial of all the plows that may be offered, and upon all the various kinds of soil that their owners contend they are best adapted to; the expense of which should be paid out of the funds of the society, and the report of such committee, published, would be of undoubted value, while those annually made at the shows, are of no value whatever.

The Ploughing-Match, as a matter of show, does

very well, being a little exciting and of interest in the exhibition.

European Agriculture—Letter of Mr. Coleman.—No man in this country entertains higher respect for this distinguished writer upon agriculture, than does your reviewer. And in the article which he characterises as *severe* upon him, no personal severity toward Mr. C. was felt. I only meant to tell Mr. Coleman, what very many persons in this country think, but dare not say, (or rather dislike to say) of his work, i. e., that it is a most decided failure, or, at least, a falling off from what was expected, judging from his former publications. For one, I am candidly of the opinion, that Mr. Coleman's tour will not greatly "advance the agricultural improvement of my own country, and her substantial welfare and glory." And I fully believe, that a tour in this country might be made far more interesting to readers in the United States.

Destruction of Weeds in Paved Yards.—This article is another of the family of *indefinites*, which are so numerous, and so much complained of in other parts of my review. What can be known by "diluting the liquid, more or less, according to circumstances," before using. But it is of no consequence, for I don't believe it will kill a weed, unless put on boiling hot, without diluting at all, and in plentiful quantities; and then the weeds of this country won't stay *kilt*, whatever they may do at the "Mint of Paris."

Illustrations of the Sexes in the Strawberry.—These illustrations are first rate, and would enable "any ingenious carpenter" to distinguish one from the other.

"Facts are things that dinna lie,"

But often are disputed,

would be an improvement of the distich quoted by Mr. Lewis. And as improved, it will be found applicable to the subject of *Butter making*, for Mr. A. H., of Setauket, says, "sour milk, we find, will not produce so much, nor so good butter, as fresh milk;" which he has found "by three years careful experiments;" while *we* have found, by fifteen years experience, that to let the cream remain unchurned until it becomes slightly sour, will make such butter as has long borne the reputation of being "the best butter in the whole country." Besides, it is also thoroughly "*spoiled*" in warm weather, by washing it in cold water.

Development of Buds in Corn.—This article of Mr. Darrach, hints that the want of light prevents the lower buds from becoming perfected. Then what would be the effect of topping the corn, soon after the formation of the buds, so as to let in the light more freely. Of course a portion of the tops must be left to produce pollen. Will Mr. D. try the experiment, and give us the result. Besides, let us have some of the "practical reasoning" of that "other lecture." "Light" is what we want, and if it exists at "Walden," it should not be "hid under a bushel" of corn.

The Atmosphere near the Sea, "it seems, contains less carbonic acid than that over the land!" Has it also ever been ascertained, that the cause of so much bilious sickness upon the rich lands of the great Mississippi valley, is the great excess of carbonic acid that abounds there? That fact is worthy

of being inquired into, and what is best to counteract it. Having been born and bred near the ocean, and being an old sailor, I feel particularly interested in this matter.

Ladies' Department—Domestic Education of Cats.—I am a great friend of cats, but still I am inclined to think that the same diet which I prescribed for dogs, would be highly beneficial for the same proportion of cats. As for educating them, it appears, from the article under review, that it has about the same effect upon them that a modern fashionable education has upon some of our farmers' daughters. It so changes their natures as totally to unfit them for all the useful avocations of life. One will catch no mice, while both incline to loll upon the sofa, "adorned in silks and jewels rare," and who, to dispel ennui, not only resort to the playfulness of the educated pussy, but endure the company of some bewhiskered fop, whose most interesting speech would be, if puss was of the Russian breed, "La! what a long tail our cat has got."

To make Kitchen Vegetables tender—From the French.—Now my wife, who is a plain old Pennsylvanian, and no Frenchman, says she can improve this recipe; and every body knows she is a good cook; hear her: "To a gallon of peas or beans, either green or dry, add a teaspoonful of saleratus, while cooking, and they will boil tender, much quicker, and be of a brighter color. Now everybody can practice this, while not one in ten have the soda, or know what it is, or how to use it; for the "small quantity" to be thrown in the pot, among an untold quantity of vegetables, is about as definite as the "size of that famous piece of chalk."

Potatoes and Flour will prevent the Incrustation of Boilers, &c.—That is true. It is a valuable recipe. But mind, old lady, you must never boil any more "hard water" in your tea kettle, if you do, the potatoes and flour won't do any good.

Rumination, &c., in the Boys' Department, is an article that may be read with profit, by a great many old boys, and ought to be read in every school. It is a capital article. Somehow, it seems as though this department of the paper always contained the best of the articles. I hope the boys always read them. Peter Parley and I have a great love for these little chaps. I wish our editor would give more pictures in the boys' part of the paper. But then he has no boys of his own, but he ought not to forget that his father had.

Vestiges of Creation.—I am not about to review this work, although I contend that all may profit by its reading. I have one word to say to the closing paragraph of the Editor's notice, in his October table. You ask for proof from the "nameless author," that "new species are still appearing upon the earth." This is not fair. It cannot be proved. New species are discovered, but who knows that they never existed before. But it can be proved, and is proved in the *Vestiges of Creation*, that many species did once exist, that exist now no more. Is that not proof enough to entitle the author to a fair show of respect for his new theory? Who knows but the "potatoe disease," is indicative that that species, too, is "passing away?" REVIEWER.

A New Critical Dictionary.—We wish somebody would get up a reformed dictionary, with all the words spelled as they are rightly pronounced.

Mr. Norton's Letters.—No. 4.

I HAVE lately been much interested, in reading and hearing accounts of the Waterstaat, a corps of engineers, who have the direction of everything connected with the canals, rivers, and lakes of Holland. If we consider the situation of the country, we see how necessary must be such a body of men.

A great portion of the coast must be protected against the inroads of the sea, by dykes. In some places, at high water, the sea is many feet above the level of the land, and the works necessary for its protection are of a most gigantic nature. When a long succession of southwesterly winds drive the waters of the Atlantic up into the German ocean, and are followed by strong northerly gales, an immense body of water flows down between Great Britain and the Continent, and is not able to pass all at once, through the Straits of Dover; it then flows back upon the Dutch coast, and tests to the utmost the solidity of its works of defence. At such a time, the advancing tide is watched with the most intense eagerness, and the result, whether it stops at a certain point, or rises a single inch above it, determines the safety or destruction of lives and property to an immense extent. While the sea is without, another enemy, almost equally formidable, exists within the country itself; this is the Rhine. The bottom of this river, is in many places, above the adjacent land; and embankments of vast size and great strength are required, to keep within bounds its winter and spring floods. The ice is a source of great difficulty, and much apprehension. If a stoppage take place, the back water rises so as to overflow the highest dykes. The greatest time of danger is when the ice on the German Rhine breaks up before that on the Dutch Rhine. In 1799, an ice dam formed, and the water at Nymegen rose seven feet in one hour; the dykes were broken, and the icebergs swept across the folders, destroying men, houses, and cattle.

In a country thus threatened, within and without, the engineers of the Waterstaat are a most important body, since upon their skill, depends not only the enjoyment of property, but of life itself, to a very large portion of the population. Such is the perfection of the system pursued at present, and so great the improvements in the construction of the dykes, that inundations are much less frequent than formerly.

These engineers are of course educated with especial reference to their business; but there are no published books, which give plans or details of the works under their control. When one of them dies, his papers are given up to the government. The strength of Holland, in a military point of view, consists in its capability of being flooded with water, and thus rendering impossible the advance of a foe. Nothing, therefore, is allowed to be published, which might give an enemy such a knowledge of the sluices, and different communications, as would enable him to thwart the defensive measures of the Dutch.

The stations of the Waterstaat are numerous, and are always placed at some point where special care and watchfulness are required. During the winter, they are placed along the whole course of the Rhine, and the officers are required to watch every

change in the air, as well as in the level of the water. Each station has its guage minutely divided, and the height of the water is duly registered each day. As far as possible, every emergency is provided for. By a convention with the Prussian government, if ever the water reaches a certain height in the guage at Arnheim, a dam shutting up one of the old channels of the Rhine is to be cut through; the river would then find its way to the sea by a new channel, overwhelming everything in its course. That this should happen, is by no means an improbable contingency; the water has already, several times, been very near the specified height.

At or near each of the Waterstaat stations, are collected stores of clay, straw, willow wicker work, faggots, &c., &c., materials for strengthening the dykes. When the engineers apprehend danger, they immediately apply to the magistrates of the nearest village for men; every other employment must give way to that of raising a temporary dyke upon the top of the threatened portion. The alarm bells are rung, and the whole country is in motion. Any troops who may be posted near, are required to repair to the scene of action, to maintain order, and assist, if necessary. The burgher force, a kind of militia, also is obliged to appear with arms, at once.

The works erected at such times, are removed when the danger is over. Notwithstanding every effort, both the sea and the Rhine sometimes break bounds, and at such times the destruction of life and property is enormous. The annals of one province, Friesland, present a series of no less than thirty-two inundations. In one of these, the Zuider Zee was formed, and eighty thousand persons lost their lives. The inundation which formed the Gulf of Dollart, in the province of Groningen, swallowed up forty-four villages. Even in the last century, fifteen hundred and sixty habitations in that province disappeared at once. The Haarlemer Meer, near Amsterdam, was also formed by an overflow of the waters. Such is the existence of a great part of Holland, constantly struggling to keep above water. Habit accustoms the people to their position, and they can live tranquilly at the foot of one of their dykes, and hear the sea thundering on the outside, fifteen or twenty feet above their heads.

In the draining of the Haarlemer Meer, and in the projection of still more gigantic works, they are once more laying bare the houses and the fields of their ancestors; once more endeavoring to confine an enemy, which before became, instead of a prisoner, a conqueror. Modern science and resources will probably enable them to succeed better now; but for my own part, I much prefer living in a country where it is not necessary to fish up land from the bottom of the sea. JOHN P. NORTON.

Utrecht, Jan. 2d, 1847.

A CALIFORNIA FARMER.—An emigrant says his stock consists of 4,000 head of oxen, 1,700 horses and mules, 3,000 sheep, and as many hogs. They all pasture themselves in the rich prairies and bottoms of the Sacramento, and are attended by Indians, of whom he employs 400. His annual crop of wheat is about 12,000 bushels, with barley, peas, beans, &c., in proportion.

RENOVATION OF THE POTATO.

A POTATO that will not produce more than one hundred and fifty bushels to the acre, is not worth the farmer's attention, much less if it be in a diseased state; and, in my opinion, the old potato is not worth redemption from disease, even if it could be effected. The world, I conceive, is in immediate want of new varieties; *new*, in their origin from the seed; *new*, in quality and productiveness. Such potatoes have been produced, and are in advance of the old crop in every important particular. They are cultivated by several persons in Europe, as well as in this country. A gentleman in Germany, near Hamburg, says that he has practised raising potatoes from seed for fifteen years, and has obtained splendid varieties, which are not attacked with the disease. I have practised the same method for seven years, and *know*, by my own experiments and observations, that it is the *true course* to pursue.

I am now making preparations for the culture of about thirty acres, the ensuing summer, for *seedling tubers*, and the *seed of seedlings*. The latter is in the fifth successive year from the old potato. I expect my seedling tubers will produce four hundred or five hundred bushels to the acre; and from the seed of my seedlings I hope to obtain at least three hundred bushels per acre, the tubers weighing ten ounces each. I think this estimate a safe one, though much will depend upon the season. The summer droughts in this laky region operate very unfavorably to the potato crop.

The coming season, I intend to gather a large quantity of seed from the balls of my seedling tubers, which grow on the vines in great abundance, while on many of the old varieties they have totally disappeared. Half an ounce of seed will plant a quarter of an acre. It can be conveyed in letters by mail with perfect convenience. The best, fully developed, distinct varieties of tubers, selected with care, will probably be in market in September next, from which seedsmen and others can be supplied.

Since the commencement of the potato malady, some persons have produced seedlings from old tubers, have found them diseased the first year of planting, and have abandoned the experiment, pronouncing the method as useless. The first seedlings from a stock so deteriorated or diseased, if found perfectly healthy would seem a miracle. The perfect redemption from the malady is to be looked for only through successive generations, by the consecutive planting and culture of seedling tubers, and the seed of the same. Every year's experiment brings both the tuber and its seed essentially in advance of its former condition. Seven years ago, I found great difficulty in preserving my new potato plants from the frost and little black bugs. In the autumn, the product was so trifling that I was near ready to abandon the experiment. Last summer, in the fourth succession, I raised, from a thimbleful of seeds, twelve bushels of tubers. Some of the single plants had on their roots one thousand potatoes, weighing, in a few instances, seven ounces each. N. S. SMITH.

Buffalo, N. Y., Feb. 26th, 1847.

We recommend such of our friends as are in want of new seedling potatoes, to apply to our correspondent for them.

Ladies' Department.

A FEATHER HOUSE.

In a neighboring county, famous for fine poultry and neat housewives, I lately saw a comfort which I believe to be entirely local, but which needs only to be known to be universally adopted on farms where much poultry is prepared for market. In the case I allude to it is an appendage to the spring-house, but it could easily be built on any spot more convenient to those concerned, as it is the thing itself, and not the situation, that seems to be particularly desirable.

Behind this spring-house (which, by the way, is one of the most tasteful affairs I know of), and joining, but not communicating with it, is a small room with two windows opposite to each other, placed high from the floor. A door at the gable end, with a pretty trellised entrance, overgrown with coral honey-suckles and wild clematis vines, which had clambered over the roof, and curtained both windows. Inside it is furnished with a white wooden table in the middle, on either side of which is a low chair, with two large baskets near each. Into this room all the poultry is taken to be plucked. The feathers are thrown into the baskets—those for beds, &c., into one, and the refuse into the other. When they are filled, these last are carefully buried in the dunghill, where they become valuable manure, and the slovenly and unsightly effect of feathers flying in all directions, or lying in heaps to breed vermin, is avoided. The best feathers and down are put into bags, and hung up on hooks near the roof, until wanted. A stove should be added for winter's use, and the pipe carried into the spring-house chimney.

The operations were performed by the farmer's daughters, as pretty and fresh-colored as the flowers blooming around them. They were dressed in plain dark cotton gowns, with large check aprons, and the neatest, primmest, whitest little caps (the muslin rather thick) tied under their chins, and drawn close down to cover and protect the hair from the down and dust.

The house was pretty, the girls were prettier, and I fell in love with them all at once.

Eutawah.

E. S.

TREATMENT OF CANARY BIRDS UNDER DISEASE.

THE most common cause of disease in these birds proceeds from a superabundance of food, which brings on repletion, or a state of being too full. In this case the intestines descend to the extremities of the body, and appear through the skin, while the feathers on the part affected fall off, and the poor bird, after a few days, pines and dies. If the disease is not too far gone, putting them in separate cages, and confining them to the cooling diet of water and lettuce-seed, may save the lives of many.

The process of moulting, which usually takes place five or six weeks after they are hatched, is frequently fatal to them. The best remedy for this, yet known, is to put a small piece of iron into the water they drink, keeping them warm during the six weeks or two months which generally elapse before they regain their strength. This malady, to

which they are all subject, is often fatal to the female after the sixth or seventh year; and even the male, though from superior attention he may recover and continue occasionally to sing, and survive his mate four or five years. He appears melancholy from this period, till he gradually droops, and falls a victim to this evil.

The Canary bird is also subject to epilepsy, or a convulsion of the whole or a part of the body, with loss of sense, asthma, ulcers in the throat, and to extinction or loss of the voice. The cure for the epilepsy is doubtful; if a drop of blood fall from the bill, when laboring under this disease, it is said the bird will recover life and sense; but if the blood be touched prior to falling off itself, it will occasion death. If the bird recover from the first attack, it frequently lives many years without any alteration of note. Another cure for the epilepsy is to inflict a slight wound in the foot. Asthma may be cured by plantain, or hard biscuit soaked in white wine. Ulcers, like repletion, must be cured by cooling food. For extinction of voice, the cure may be effected by the hard yolk of eggs, chopped up with crumbs of bread, giving for drink a little liquorice-root or a blade of saffron in water.

In addition to these evils, the Canary is infested by a small insect, if due attention is not paid to cleanliness. To avoid this, the birds should have plenty of water to bathe in, a new cage covered with new cloth, and the seeds with which they are fed well sifted and washed. These attentions, if troublesome, are nevertheless necessary to possess a thriving bird. When wild, all birds require water, and this is also necessary to the Canary. Z.

TO CURE HERRINGS.

THOSE who are so fortunate as to have eaten pickled herrings in Virginia, will have reason to thank me for the following recipe, which is still in common use in the "Old Dominion," where they understand perfectly what good eating is:—Boil and skim the pickle of your last year's beef, returning it to the barrel, and take it to the water side. As the fish are taken from the net, be careful that they are not bruised; pick out the largest herrings, and throw them alive into the brine. They die almost instantly, but not before they have swallowed some, which improves them much. Let them remain until the next day. Put a layer of coarse salt at the bottom of a dry, tight barrel. Take the fish out of the pickle, and lay them for a few minutes upon a board to drain; then put in a layer of herrings, cover them with a thick layer of coarse salt mixed with a little saltpetre; then herrings, then salt, until the barrel is full, and cover with a *thick* layer of salt. Put the head loosely on the barrel, and if they do not make pickle enough in a fortnight add enough to cover them. They are better when a year or even two years old than at first.

When wanted, soak some of them in pure cold water, three or four hours; scale and pull out the gills, and dry them in a towel. Wrap each herring by itself in a piece of white paper nicely rubbed over with butter, and broil it carefully without burning the paper. Observe these rules, and you will have a dish fit for an epicure.

Eutawah.

E. S.

Boys' Department.

A CHAPTER ON GRASSES.—No. 4.

RICE (*Oryza sativa*) was cultivated in the East, long before it was introduced into Egypt, from whence it was taken to Greece. It was brought to Carolina about the year 1700. (a) By some writers it is placed second to wheat, as affording food to a larger proportion of human beings than any known grain, though intrinsically of less value. It has altered the face of the globe, and the destinies of nations; for there can be no reasonable doubt, it is to this grain that the Chinese and Hindoos owe their early civilization. Immense districts of country would have remained irreclaimable and desolate, if nature had not granted to a simple grass, the property of growing exclusively in marshy and inundated grounds. The Chinese method of cultivating is very curious, and if any of the boys want to know about it, they must let me know, and I will give a description of it, for their benefit, at some future time.

Though generally capable of coming to maturity only in hot countries, there is a kind, probably another species, hardy enough to flourish even on the edge of the Himalayan snows; and a small crop of the common kind, is said to have ripened its seeds in England, on the banks of the river Thames.

A quarter of a pound of rice, boiled slowly, will yield more than a pound of solid nutritious food.

The early history of Rye, (*Secale cereale*), the only known species of the genus, is veiled in obscurity, as completely as that of any other grain, though it has been cultivated in Europe, from time immemorial. It affords the principal food of the peasants, in the greater part of the North of Europe, and even in the more genial climate of the south and middle provinces of France, the lower class of people seldom know any other than rye bread. Little more than a quarter of a century ago, it was the universal custom, in France and Germany, as it still is in Poland and Russia, for travellers to carry their own provisions, as nothing better was to be found at the relay houses, and the best hotels, even upon the most frequented roads, than the coarsest rye, or barley bread; and it was no unusual occurrence for the postilions to share with their horses, their allowance of this black, but not unpalatable bread.

Barley (both the *Hordeum vulgare* and *Hordeum distichum*) is extensively cultivated for brewing beer; the latter being preferred by some farmers, as ripening earlier, and yielding a heavier grain. In Europe, it is used as food for man as well as horses; barley bread being the chief vegetable diet of the peasants in Norway, Sweden, Siberia, and even in the mountainous parts of Scotland.

Oats (*Avena sativa*), though making a coarse kind of bread, used by the poorest inhabitants of the most northern regions of Europe, is raised there principally, as it is here exclusively, as food for horses. An inappreciable quantity being made into oat meal, is a light, wholesome diet for sick persons.

Two or three hundred years ago, when the occult sciences were much in fashion, and learned men believed the baser metals could be transmuted into

gold, it should not have surprised us to learn, that they thought the cultivated grains were liable to similar changes, through the influence of soil and climate. Thus they affirmed, wheat became rye, when sown upon a worn-out soil; that, after a time, under unfavorable influences, turned to barley, which degenerated to oats—which, by longer neglect, became hay-grass, from which, the transition to broom-grass or cheat was easy and sure. These adepts did not stop here, but believed that, with careful culture and fertile soil, the seed of this same cheat, would be made to perform a retrograde movement, as far on the same road, as would bring it back to rye; but, higher in the scale it could not be made to go—never having been known to become wheat again. It is a pity their patience did not hold out a little longer, and the wonder might have been completed. Recollecting the ignorance of natural science, which was universal in those times, such credulity can be forgiven; but can we be equally lenient? Can we account for the undoubted fact, that in this enlightened age, there are to be found intelligent men, who hesitate not to declare their belief in the change, and that they have investigated the subject, and have witnessed the gradual passage of wheat into cheat, if it be allowed to grow wild on a thin, sterile soil? As well might they expect a crop of water melons from a pumpkin vine.

Perhaps some clever boy will make the experiment; let him proceed cautiously. Bake a bushel of earth, which will make it poor enough, and destroy all the seeds that might be mingled with the most carefully sifted—then spread it out thickly, over a garden plot, where no grain has been grown for years, or over a sod would be better, and then sow some wheat that has been picked grain by grain; and next year, publish the result. E. S.

Eutawah.

(a) It would appear, from the Oriental Repertory, that, as early as 1698, rice was cultivated in Carolina, as 60 tons were imported from that colony into England, that year.

FACTS IN NATURAL HISTORY FOR BOYS TO LEARN.

Is there any difference in the mode of lying down of a horse or an ox? Is it true that a horse, in getting up, rises first on his fore legs, before rising upon his hind ones? and that an ox, on the contrary, rises first upon his hind legs, and often remains a few seconds upon his knees until his hind legs are straightened?

When the tail of a dog is of two colors, and one of them white, what color is the tip end?

When the legs of turkeys and hens are black, what color are the bottoms of their feet?

If a strange dog approach you, and you stoop as if to pick up a stone, will he run away or come nearer to you?

TO PREVENT THE YELLOWS IN PEACH-TREES.—It is said, and upon pretty good authority, that about one quart of strong potash ley, poured round the body and roots of a peach-tree, twice a year, will prevent the yellows; and even restore them after they are diseased.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer *Hibernia* we are in receipt of our foreign journals to March 4th.

MARKETS.—*Ashes*, Pots have advanced 2s. per cwt., Pearls remain as per our last. *Cotton*, a decline of $\frac{1}{2}$ d. per lb., stock on hand at Liverpool on the 1st of March, 484,000 bales, against 893,000 same time last year. *Flour and Indian Meal* had fluctuated somewhat during the past month, but just before the steamer sailed a slight advance was established. *Beef*, an advance of 2s. to 4s. per tierce. *Pork*, 3s. to 5s. per bbl. *Lard*, scarce and bringing extreme prices. *Butter* an advance of 4s. to 6s. the cwt. *Cheese* a reduction of 3s. to 4s. pr. cwt. *Guano*, a slight improvement. *Rice*, a decline of 4s. and 5s. the cwt. *Naval Stores* scarce at improved prices. *Tallow* firm. *Tobacco* large sales. *Wool* from the United States when put up in fair condition realizes good prices; but so much of it is badly washed, ill cleaned, and containing the dirty thigh locks wrapped up inside the fleeces, that purchasers have become completely disgusted, and bid for it with great reluctance. It is disgraceful to the country that it is not shipped in better condition.

The Manure Heap in Holland.—Great attention is paid to the dung, which is put up into neat heaps at the back of the house, consisting of alternate layers of turf and manure from the byre, and watered every now and then by the liquids previously collected from all the houses, in a cask sunk in the ground.

Holland Cows.—The cows are beauiful, and kept in the finest order; indeed many farmers seeing them would be apt to consider them too fat to give milk. They are black and white, and many of them are marked like the sheeted breed of cattle, the colors being black and white instead of brown and white, as in the latter. They are very small in the bone, have small heads, thin necks, and capacious carcasses, with large udders. This is the description of cattle found all over Holland.

Handling as a Test of the Fattening Properties of Animals.—In all domestic animals the skin or hide forms one of the best means by which we can estimate their fattening properties. In the handling of oxen, if the hide be found soft and silky to the touch, it affords a proof of a tendency in the animal to take meat. A beast having a perfect touch will have a thick loose skin, floating, as it were, on a layer of soft fat yielding to the slightest pressure, and springing back towards the finger like a piece of soft thick chamois leather. Such a skin will be usually covered with an abundance of glossy hair feeling like a bed of moss, and hence is very appropriately termed a mossy skin. But a thick firm skin, which is generally covered by thick-set, hard, short hair, always handles hard, and indicates a bad feeder.

Value of the Hoofs and Horns of Cattle.—The hoofs and horns of a hundred head of cattle are daily consumed in Campsie Alum Works in the manufacture of that beautiful yellow salt, prussiate of potash, which Mr. Macintosh introduced among the calico-printers, who use it extensively to produce very showy blues and greens. It is prepared by burning the hoofs and horns in iron pots, along with potash and a requisite quantity of iron. The residue, after this combustion, is laxisiated with water, and when the solution is sufficiently concentrated, the prussiate of potash crystallizes.

Nutritious Value of Bones.—It would be well if some good cook, acquainted with a little chemistry, would make some experiments upon the cookery of bone, which might be made to yield many soups and other palatable and nutritious dishes. Professor Brande observes that "Bone constitutes upon an average, a fifth part of the weight of an animal, and one-third of the weight of bone may be reckoned as good substantial

food. The weight of butcher's meat consumed in London annually is supposed to be 172,000,000 lbs., including 35,000,000 lbs. of bone, which would yield 11,000,000 lbs. of dry gelatine, or real nutritive matter, which, at present, is so far wasted as not to be applied to the direct support of human life. The bones of pork, game, poultry, and fish, not included in this statement, must also be of great amount. From all or any of these, an excellent dry gelatine, or portable soup, might be prepared and sold for about 2s. per lb., equivalent to three or four times its weight of raw meat."

Tubercular Consumption, which is very prevalent among the cows which supply milk to the inhabitants of some large towns, is attributed by Sir James Clark to their being immured during part of every year in dairies, perfectly closed, and which being too small for the number of animals they contain, soon become filled with heated vitiated air, for the removal of which no contrivance is made. Recently there has prevailed in the dairies of London and its vicinity, a new disease, which chiefly attacks cattle in the hinder extremities, paralyzing their limbs, and presenting many of the ordinary symptoms of pleuro-pneumonia.

Rearing Calves.—Calves may be reared without milk after a few days from their birth. Linseed porridge, made by boiling a quart of seed in eight or ten gallons of water, and further thickened by three pints or two quarts of flour: oats are perhaps best; but flour made of the large broad bean, or even the common field bean or barley, will do. This should be given new-milk-warm.

Farming in Russia.—Colonel Pochwissneff farms his property on a four course shift; he has 400 acres in rye, 400 in oats, 400 in clover, buckwheat, peas and potatoes, and 400 in summer fallow. He employs 80 men and 80 women, and turns out 80 sochas or ploughs with a horse and a harrow to each two ploughs, and sows, ploughs and harrows at the rate of 100 acres per day. Colonel Pochwissneff mentions, that the original invention of the socha is lost in antiquity, but it is known that they have remained unaltered for 400 years.

Cut Straw Litter.—Mr. Browne has about 50 head of young cattle in stalls, their food, whether green or dry, cut for them. They are all littered daily with cut straw, which effectually absorbs all moisture. The stalls are cleared out every second week, and the manure thus obtained is fit for immediate use. The cattle are thus kept clean and do well. The straw is cut into pieces of from one to two inches in length, by means of a steam-engine (employed for the general use of the establishment), at an expense of one shilling for each 400 bushels. The manure, from its short texture, does not interfere with the working of the implements employed on the land; and in the spring may be applied as a top-dressing for wheat, without obstructing the operation of the hoe. It may be applied to grain or root crops with great advantage. It may then be mixed with the soil by the hoe, and in dry seasons, on dry soils, such application of cut straw manure is attended with great advantages. Coarse salt is sprinkled occasionally on the manure-heaps, for the purpose of preventing their becoming over-heated.

Substitute for Potatoes.—The Scottish farmers are substituting beans and turnips on the land hitherto employed for potatoes.

Importation of Seed Potatoes.—A large quantity of foreign potatoes, for seed, have been imported into London.

Rise of Bread in France.—The price of bread in Paris has again been raised two centimes the kilogramme, or about $\frac{1}{2}$ d. on the 4lb loaf.

Number of Horses in England.—There are 1,300,000 horses in England, each of which consumes the produce of as much land as would feed eight men.

Editor's Table.

JOURNAL OF THE TEXIAN EXPEDITION AGAINST MIER; with Reflections upon the Present Political and Probable Future Relations of Texas, Mexico, and the United States. By Thomas J. Green. Illustrated with copper-plate Engravings. New York: Harper & Brothers, pp. 488, 8vo. Price \$2.00. The nature of this work is sufficiently indicated by its title, and those who are desirous of obtaining information respecting Mexico, particularly at the present period of its history, should, before all others, purchase it.

LATROBE'S RAMBLER IN MEXICO. New York: Harpers. 12mo. Price 65 cents. Of recent tourists in Mexico, we think no one has given a more graphic picture of the manners and scenery of that country than Latrobe; and like the above named work by Mr. Green, the Rambler cannot fail to be read with interest by all at the present time.

TRAVELS IN PERU, during the years 1838-42, on the Coast, in the Sierra, across the Cordilleras and the Andes, into the Primeval Forests. By Dr. J. J. Von Tschudi. In two parts. New York: Wiley & Putnam, pp. 354, 12mo. Price 37½ cents each. This little work, which forms a part of the Library of Choice Reading, probably contains more information on the present condition of Peru, as regards its natural history, agriculture, manners, customs, and occupation of its inhabitants, &c., than any work extant.

Dogs; their Origin and Varieties; Directions as to their General Management, and Simple Instructions as to their Treatment under Disease. By H. D. Richardson, Author of *Domestic Fowls, &c.*, with twelve Illustrations, engraved on Wood. D. Appleton & Co., 200 Broadway, pp. 115, 18mo. Price 25 cents. We seldom have read a work with more heart-felt pleasure than the little book before us. The origin of the Dog, the faithful and constant "friend of man," may be traced back to remote ages of "Animated Nature," and the training of this generous quadruped seems to have been one of the first arts invented by the human race; and the result of this art was the conquest and peaceful possession of the earth. Various poets and moralists, both ancient and modern, have delighted in commemorating the virtues of what they have been pleased to call the "glorious, never-to-be-forgotten conquest of reason over instinct;"—yes, from the days of Homer, who hymned the fidelity of Argus, the old dog of Ulysses, in the *Odyssey*, to our own times, when Lord Byron, in his youth, penned the epitaph upon his faithful favorite at Newstead; and the late Thomas Campbell sang in one of his celebrated ballads, of the old harper, by the Shannon, and his dog—where the simple tale of Colin and "his poor dog Tray"—the old shepherd and the old shepherd's dog—was adorned with plaintive verse. But more of this anon. The neat and tasteful manner in which this book is got up, its exceedingly low price, and its general utility in the management of the dog, cannot fail to insure an extensive circulation.

THE FAMILY KITCHEN GARDENER; containing Plain and Accurate Descriptions of all the different Species and Varieties of Culinary Vegetables; with their Botanical, English, French, and German names, alphabetically arranged, and the Best Mode of cultivating them, in the Garden or under Glass; with a Description of Implements and Medicinal Herbs in General Use. Also, Descriptions and Characters of the most Select Fruits, their Management, Propagation, and Culture. Illustrated with 25 Engravings. By Robert Buist, Author of the *American Flower-Garden Directory*, *Rose Manual, &c.* New York: J. C. Riker. 12mo. From a cursory view of this work, and judging from Mr. Buist's other publications, we commend the treatise to the attention of all who have a desire to improve

their kitchen gardens. It is for sale by C. M. Saxton, 205 Broadway, N. Y.

BAGLEY'S GOLD PENS.—We would call the attention of our readers to Messrs. Bagley & Co.'s advertisement of Gold Pens, in another part of our columns. These prime articles have long been in use, and when once obtained, one will last for many years without repair; and of course will prove cheaper in the end than any other kind of pen in use.

AINSLIE'S BRICK-BURNING KILN.—This kiln for drying and burning bricks and tiles, is composed of various compartments, by which the heat from the first passes into the second, from thence into the third, and so on—thus economising the fuel; and when the tiles in the first are burnt, those of the second are half burnt, to which the greatest heat is then applied, and the chambers are taken in succession—the thorough drying of the bricks being completed by using the heat after it has completed the burning. This new apparatus has been proved on a large scale; and unlike the common method, by which, frequently, one-quarter of the article is spoiled, in this every brick and tile is said to be as perfect in shape as it entered, and thoroughly burned.—*Year-Book of Facts.*

CONCENTRATED GRAVY OF MEAT.—This article is manufactured at Sydney, New South Wales, from the carcasses of oxen and sheep, which are bred there for the sake of their tallow, wool, hides, and bones. The value of oxen in Australia is from 15s. to 20s., and of sheep 1s. 6d. to 2s. 6d. each. During the last year, the leg-bones of upwards of 109,000 oxen were sent over to England, the greater part of the flesh of the animals having been thrown away. The object of the present manufacture is to reduce the lean of the carcass into a solid portable soup, by stewing it down in its own gravy, without water, in double pans. By reducing it in this way, the water in the lower pan prevents the fire passing through and giving to the soup the burnt flavor which it has always hitherto had. When manufactured, it is sold in cakes of various sizes, at the rate of 2s. per pound. One pound of the soup is said to be equal to 24 pounds of the best gravy beef.—*Id.*

THE MAY-FLOWER, or Trailing Arbutus (*Epigaea repens*), the provincial emblem of Nova Scotia, is to that country what the rose is to England, and the shamrock to Ireland. Like the snow-drop in England, its modest and lovely blossoms are first to herald the departure of winter and the return of spring. By the latter end of March, or early in April, in the State of New York, and gradually for a month or six weeks later as we progress northward, visitors to sylvan scenes may be seen bringing home a few solitary specimens of the "promised bouquet;" but immediately after this, especially after the first warm rains of spring, they may be found in great profusion near the borders of dry open woods, from Schenectady in New York to Nova Scotia and Newfoundland. It is a beautiful, small flower, most frequently white, but sometimes blushing through every intermediate shade till it reaches the hue of the rose. It grows close to the ground, and like the violet, is almost covered with its own leaves, but may be immediately detected by its rich perfumes.

We know of no reason why this beautiful emblem of spring may not be cultivated in our gardens and cultivated grounds; and as the season is at hand for selecting roots or seeds, we hope some of our northern friends will make the experiment.

CURSE OF THE POTATOE CROP IN IRELAND.—Cobbett prophesied in 1826 that in twenty years the exclusive cultivation of the potatoe would be the curse of Ireland. He said, "the potatoe will not last more than twenty years, when it would work itself out, and then you will see to what a state Ireland will be reduced. You must return to grain crops; and Ireland, instead of being the most degraded, will become one of the first countries in the world."

N. Y. STATE AGRICULTURAL SOCIETY.

At a meeting of the Executive Committee at Albany, March 11th, letters were read from various persons, among which was one from Geo. Geddes, of Fairmont, in relation to experiments with Indian corn, to ascertain its value for fattening animals, &c., and another from A. L. Fish, of Herkimer county, in relation to the analysis of soils and grasses, and the testing of the qualities of milk of different cows for dairy purposes. [The Secretary was directed, after consultation with Prof. Emmons, to answer inquiries.]

Fruit.—The following resolution was adopted for the government of the committees on fruit:—

Resolved, That the work entitled *The Fruits and Fruit Trees of America*, by A. J. Downing, be the established authority of the N. Y. S. Ag. Society, in classifying the varieties and nomenclature of fruits in our future exhibitions.

A. J. Downing, of Newburgh, and J. W. Bissell, of Rochester, were added to the committee on fruit, appointed under the resolution of last year and continued at the last annual meeting. The other members of the committee are Lewis F. Allen, of Buffalo, chairman; Samuel Young, of Saratoga; and Herman Wendell, of Albany.

The President stated that he had, in company with the Secretary, visited Saratoga Springs, at the request of gentlemen of that place, and had examined various locations proposed for the show grounds of the Fair, in September; that several of these were in the highest degree eligible, and that advice had been given to the members of the executive committee there, as to the location which was most desirable.

The Secretary reported the Premium List, as published, and was authorized to procure 250 copies of the same for distribution. The amount of cash premiums, \$3,004; 131 volumes of agricultural works; 65 volumes Transactions; 59 diplomas, and 15 silver medals; amounting in all to \$3,472.

The Secretary reported that he had received returns from 39 county societies, and that their reports were, in many cases, of very great interest, and that all reports received had been prepared for the Transactions. Only seven societies from which reports had not been received—and that he was in correspondence with the officers of these societies, and expected returns from them all. Only twelve counties in the State in which there were not organized societies.

From these reports it appears that in nineteen counties the yield of Indian corn exceeds 80 bushels to the acre; in 11 counties crops are reported exceeding 100 bushels. The largest yield in—

Cortland county, of.....	154 bushels.
Oswego ".....	146½ "
Orange ".....	139 "
Tioga, ".....	125 "
Oneida, ".....	123½ "

The largest yield of Wheat is from Ontario, a fraction short of 60 bushels per acre, on upwards of 3 acres.

In eight counties the yield of Oats exceeded 70 bushels per acre. The largest yield, 102 bushels, in Oneida.

A premium of \$5 awarded to Jesse Babcock, of Volney, Oswego county, on Barley, 54 bushels 8 lbs. per acre.

To Henry Brewer, of Enfield, Tompkins county, a premium of \$10, for best two acres of clover seed, 5½ bushels per acre.

Satisfactory reasons were given to the committee as to the delay attending the production of the papers in the above cases at the annual meeting.

B. P. JOHNSON, *Secretary*.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MARCH 24, 1847.

ASHES, Pots,.....	per 100 lbs.	\$4 87	to	\$5 00
Pearls,.....	do.	6 25	"	6 31
BALE ROPE,.....	do.	5	"	6
BARK, Quercitron,.....	ton,	35 00	"	40 00
BEANS, White,.....	bush.	1 25	"	1 75
BEESWAX, Am. Yellow,.....	lb.	26	"	30
BOLT ROPE,.....	do.	11	"	12
BONES, ground,.....	bush.	40	"	55
BRISTLES, American,.....	lb.	25	"	65
BUTTER, Table,.....	do.	16	"	25
Shipping,.....	do.	9	"	15
CANDLES, Mould, Tallow,.....	do.	9	"	11
Sperm,.....	do.	25	"	38
Stearic,.....	do.	20	"	25
CHEESE,.....	do.	5	"	10
COAL, Anthracite,.....	2000 lbs.	5 50	"	6 00
CORDAGE, American,.....	lb.	11	"	12
COTTON,.....	do.	10	"	14
COTTON BAGGING, Amer. hemp,.....	yard,	11	"	14
FEATHERS,.....	lb.	25	"	34
FLAX, American,.....	do.	7	"	8
FLOUR, Northern and Western,.....	bbl.	6 50	"	7 12
Fancy,.....	do.	7 00	"	7 25
Southern,.....	do.	6 38	"	7 00
Richmond City Mills,.....	do.	8 00	"	8 50
Buckwheat,.....	do.	4 00	"	4 25
Rye,.....	do.	4 75	"	4 88
GRAIN—Wheat, Western,.....	bush.	1 65	"	1 75
Southern,.....	do.	1 60	"	1 65
Rye,.....	do.	90	"	91
Corn, Northern,.....	do.	90	"	95
Southern,.....	do.	85	"	90
Barley,.....	do.	70	"	75
Oats, Northern,.....	do.	46	"	50
Southern,.....	do.	40	"	44
GUANO,.....	do.	2 50	"	3 00
HAY, in bales,.....	100 lbs.	50	"	56
HEMP, Russia, clean,.....	ton.	240 00	"	245 00
American, water-rotted,.....	do.	105 00	"	185 00
American, dew-rotted,.....	do.	75 00	"	125 00
HIDES, Dry Southern,.....	do.	9	"	10
HOPS,.....	lb.	8	"	10
HORNS,.....	100.	2 00	"	10 00
LEAD, pig,.....	do.	4 25	"	4 31
Sheet and bar,.....	lb.	4 41	"	5½
MEAL, Corn,.....	bbl.	4 88	"	5 00
Corn,.....	hhd.	20 00	"	22 50
MOLASSES, New Orleans,.....	gal.	35	"	37
MUSTARD, American,.....	lb.	16	"	31
NAVAL STORES—Tar,.....	bbl.	1 75	"	2 00
Pitch,.....	do.	88	"	1 06
Rosin,.....	do.	50	"	60
Turpentine,.....	do.	2 50	"	3 00
Spirits Turpentine, Southern,.....	gal.	38	"	43
OIL, Linseed, American,.....	do.	77	"	80
Castor,.....	do.	75	"	80
Lard,.....	do.	85	"	90
OIL CAKE,.....	100 lbs.	1 50	"	1 75
PEAS, Field,.....	bush.	1 25	"	1 75
PLASTER OF PARIS,.....	ton.	2 25	"	3 00
Ground, in bbls,.....	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....	bbl.	10 00	"	12 00
Prime,.....	do.	8 50	"	9 50
Smoked,.....	lb.	7	"	11
Rounds, in pickle,.....	do.	5	"	7
Pork, Mess,.....	bbl.	12 50	"	15 00
Prime,.....	do.	12 00	"	13 25
Lard,.....	lb.	10	"	11
Bacon sides, Smoked,.....	do.	6	"	8
In pickle,.....	do.	5	"	7
Hams, Smoked,.....	do.	8	"	12
Pickled,.....	do.	6	"	10
Shoulders, Smoked,.....	do.	6	"	8
Pickled,.....	do.	5	"	7
RICE,.....	100 lbs.	3 25	"	4 75
SALT,.....	sack,	1 25	"	1 35
Common,.....	bush.	20	"	35
SEEDS—Clover,.....	lb.	8	"	10
Timothy,.....	7 bush.	18 00	"	25 00
Flax, clean,.....	do.	10 25	"	11 25
rough,.....	do.	10 50	"	11 50
SODA, Ash, cont'g 80 per cent. soda,.....	lb.	3	"	3
Sulphate Soda, ground,.....	do.	1	"	—
SUGAR, New Orleans,.....	do.	6½	"	9
SUMAC, American,.....	ton,	35 00	"	37 50
TALLOW,.....	lb.	8	"	9
TOBACCO,.....	do.	2	"	7
WHISKEY, American,.....	gal.	27	"	28
WOOLS, Saxony,.....	lb.	35	"	60
Merino,.....	do.	25	"	30
Half blood,.....	do.	20	"	25
Common do.....	do.	18	"	20

REMARKS.—We have few alterations to make in our Price Current this month. Pearl ashes have advanced about 75 cents, Flour $12\frac{1}{2}$ cts., Wheat 5 cents, Corn has fallen 5 cents, Barley and Rye nearly the same. The market is very active, and large shipments of produce are continually going forward. The faunine still continues in Europe.

Money is abundant. Large importations of specie are made by every steamer.

The Weather, though mild and open here, continues cold north and west of us. In consequence of the open winter, wheat has suffered materially, and present appearances are not favorable for a large crop. We hear some complaints of the worm among the Cotton. An unusual breadth of land is being planted in Cotton, Corn, Rice, and Sugar. If the country is favored with tolerable weather, the product of these great staple articles will be very large the coming season.

To CORRESPONDENTS.—Communications have been received from Solon Robinson, J. H. D., R. L. Allen, A. Beatty, Old Lady, W. D., Archibald Jayne, J., and Duchess County Agricultural Institute.

ACKNOWLEDGMENTS.—List of Premiums offered by the Washington County Agricultural Society to be awarded at their next Fair to be held at Montpelier, Vt., Oct. 1, 1847.

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30,000 PEACH TREES of vigorous growth, 6 to 7 feet in height, comprising twenty of the best leading varieties for market, will be supplied at \$12 per 100, or \$100 per 1000, for cash, remitted with the order. The Matting will be \$2 per 100.

PEAR TREES of all the leading varieties, 8 to 9 feet high, with heads, at \$18 per dozen, and others, averaging 5 feet, at \$50 per 100. Pears untrunked, for Quenouilles or Dwarfs, 2 years grown, \$9 per dozen; and three years in a bearing state, \$12 per dozen; 2000 Newtown Pippins and Baldwin Apples, and 20,000 of the other choice varieties, 6 to 7½ feet, at \$30 per 100.

10,000 Orange and Augers QUINCES, the finest varieties, from 3 to 5½ feet in height, at \$20 to \$30 per 100.

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a2t

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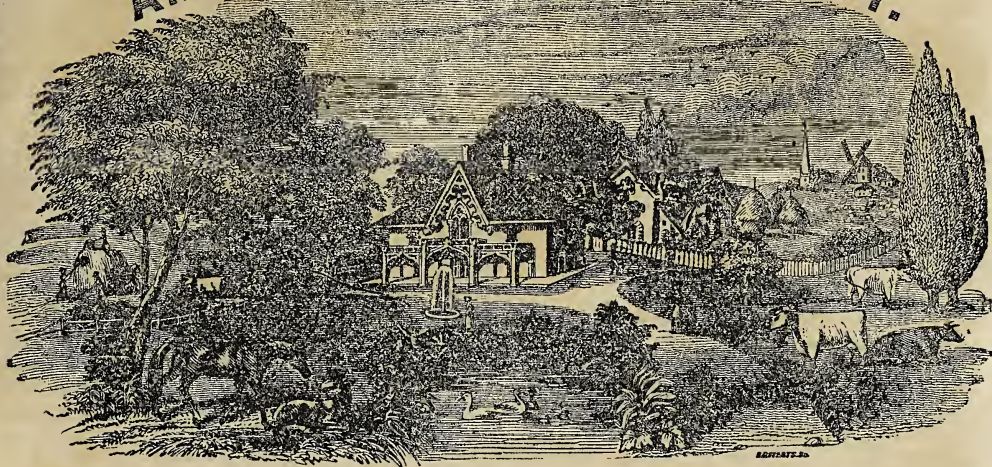
WINTER & CO., Proprietors.
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April 1st, 1847.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VI.

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NO. V.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

ADAPTATION OF OUR PAPER FOR GENERAL CIRCULATION THROUGHOUT THE UNITED STATES.

THE complaint is often made, that our paper being printed at the north or east, is not adapted to the wants of the south and west. This, if true, is a matter of serious consequence to us and our subscribers. Let us examine it for a moment, and see what is the force of the objection.

Our paper treats of every description of domestic animals and poultry; their characteristics, breeds, the best and the worst; their advantages and disadvantages; their mode of breeding, feeding, rearing and treatment; their uses, profits, management, &c., &c. It also treats of all cultivated crops, including fruits, shrubbery, &c.; the best seeds, mode of planting, cultivating, gathering and preparing for markets; the general principles of vegetation and the laws of vegetable life. It also treats of the principles of mechanics as applied to machinery used by farmers and planters; the best machinery and implements for agriculture, their uses and the particular superiority of some over others, and their adaptedness for particular purposes, &c. It also gives the latest improvements in those implements which may have been made, and suggests others; tells where they are to be found and the benefits that will follow from their use. It also specifies new objects of cultivation, and how they may be better prepared for a profitable market and more general use. These are a part only of the objects of our paper; yet they, with the other subjects treated, are of *universal interest and general application*. Nineteen-twentieths of all that is to be found in it is of the same use to one part as to any other part of America. Yet we find people constantly objecting that it is not printed in their particular section of country, and that it is not suited to their wants. Does it make any difference where a boy acquires

his education, provided it be a good one and he be correctly taught? Where he studies his profession of divinity, medicine, or even law? Cannot he take the principles he has acquired, and apply them equally well in any part of the Union? Is not the blessed sun-light of heaven, the rain, the dew, the heat and the frost, though sometimes differing in degree, of equal relative effect wherever they are felt, whether within the tropics or the polar circles, the eastern or western hemisphere?

There are, to be sure, some few articles of cultivation, which by their very natures are confined to particular climes and localities. The orange and the fig, the sugar cane, cotton plants and rice, are confined to a section of North and South America; yet that section is a broad one, and spaced through many degrees of longitude and latitude. These are largely treated through our columns, and probably more fully than in any other journal in America. Our pages are constantly open to new suggestions and approved modes of cultivation, and any intelligent writer from any section of the country has a full opportunity of having his views spread out before the community through them. Why not then embrace the information herein contained, and diffuse it broad-cast over the land?

If the question were as to a choice between a good paper printed here or there, it were another matter. But, throughout extensive regions this is not the case, and it is either a good paper at the east, or none at all; and even if there were one for any particular section of country, we might still urge a general circulation for our own; for no one will embrace all that is important to be known. Then the price of our periodical is so cheap, so utterly insignificant, that each farmer may well afford to take a dozen for gratuitous distribution without feeling the expense, and indeed, with the certainty of being ten-fold repaid annually for the

petty outlay. People think nothing of giving their money profusely for a great variety of things; why will they not then take into consideration the benefits of an improved agriculture? It is the great interest of the country, and the foundation of all others. The prosperity of the world rests upon it, and woe be to the nation that neglects it. It is mainly owing to the want of an enlightened system of agriculture, that Ireland and some of the continental districts of Europe are now suffering all the horrors of starvation.

HALL AT WYOMING.

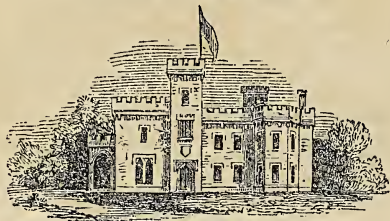


FIG. 28.

The above cut represents the front elevation of a dwelling, in the castellated style, to be erected the ensuing summer at Wyoming, near Boston. It measures 75 by 36 feet. The walls are rough stone, and the flat roof is covered with bricks, one inch thick, laid in cement. The gothic doorway opens into a hall 32 by 10 feet. On the left of the hall is a drawing-room 32 by 22 feet, 16 feet high. On the right, are a library, dining-room, and two bed-rooms; above are eight spacious bed-rooms. The location of this mansion is well adapted to the style of its architecture, being on high ground, fronting a lawn of five acres in extent, and overlooking one of the most beautiful lakes in New England.

Wyoming is seven miles north of Boston, and was about a year since laid out in lots for ornamental cottages and villas. It comprehends a great variety of scenery—hill, dale, open lawn, dense forest, extensive lake, murmuring brooks, and cascades rushing down romantic glens—well deserving a name so immortalized by the poet Campbell.

The building now presented to the notice of our readers was designed by William Bailey Long, author of "Views of Highland Cottages," which work is for sale at the store of Messrs. Clark and Austin, No. 205 Broadway, New York.

TO PREPARE BONES FOR MANURE.

As mills for grinding bones are very costly, it is a great desideratum for the farmer to know how he can otherwise prepare them for his crops. By the following simple method he can reduce them to a fine powder and increase their value four-fold:—

Take 100 lbs. of bones, and place them in a kettle, or in an old tub unfit for further use, or even in a hollow scooped in the ground, and made water tight by lining with clay. Next take from 30 to 35 lbs. of oil vitriol (sulphuric acid), mixed with one-third to one-half its weight of water, and pour over the bones. In a day or two, the bones will dissolve into a liquid paste, to which there must be added, by stirring in, wood ashes or fine mould, until it is

of the consistency of thick mortar. Put the mixture under cover out of the way of rain, and in a few weeks it will become a light, dry powder, which may be applied by the hand or otherwise, to any kind of land that may require it. In preparing this mixture, great care must be observed to keep the oil of vitriol from touching the clothes or skin, as it will burn them as badly as fire.

The oil of vitriol, for this mixture, must be of a first-rate quality, otherwise it would require a greater quantity than given above, to dissolve 100 lbs. of bones. The mixture answers best for a turnip-crop; but it is highly valuable for other roots as well as for grass and grain. It should be applied at the rate of 20 to 40 bushels to the acre, sown broad-cast on grass-land, in the spring, or on grain and turnip-crops after harrowing in the seed. For garden or field-crops planted in rows or drills, as roots, corn, beans, peas, &c., it may be applied in the hills or rows at the time of sowing, or it may be afterwards sprinkled around the plants at the time of hoeing.

AGRICULTURAL CHEMISTRY.

It has often been sneeringly said, that chemistry has done nothing yet for agriculture. Those who make such assertions only show their extreme ignorance, coupled with rank prejudice. Look at the great number of accurate analyses of soils, manures, grain, vegetables and animal matter, which have been going on for years; and the late brilliant discoveries of the detection of ammonia in various substances where it was not before known to exist; and the formation of the *superphosphate of lime*, by the application of sulphuric acid to bones, thus making them easily soluble, and rendering one bushel as valuable for the growing crop as four or even five bushels applied in the ordinary way. Indeed, in some recent experiments in England on a crop of rutabaga, made with great care, one bushel of bones has been found equal to thirty bushels, as usually applied, though nothing like this could probably be realized in a majority of instances.

From a late report of the Agricultural Chemistry Association of Scotland, we learn that the number of analyses made in the laboratory during the last six months has amounted to 210. Among these are three different oil-cakes. It is a remarkable fact, considering the great extent to which this article is used, and the length of time it has been employed, that its accurate chemical composition should have been so long unknown. Some of the practical benefits to the farmer arising from this analysis are indicated by the following propositions:—

1. That the per-centage of the protein compounds, in the analysis called gluten and albumen, is nearly equal to what is contained in peas and beans, and that, therefore, for the production of milk for the cheese-dairy, and also for *laying on muscle*, oil-cakes are as *valuable* as beans, peas, or clovers. This is a result somewhat unexpected, inasmuch as the value of oil-cakes in the feeding of stock has hitherto been supposed to depend very much upon their power of laying on fat; in other words, upon the per-centage of oil they contain.

2. The proportion of oil in these cakes is greater than is naturally present in any species of grain

or pulse usually cultivated. Oats contain as a maximum about 7, and Indian corn about 9 per cent. of oil, but these cakes contain 12 per cent., and are, therefore, in their ability to supply fat to an animal, *superior to any of our cultivated grains.*

3. These oil-cakes leave six per cent. of ash, of which one-third consists of phosphoric acid; 100lbs. of oil-cake, therefore, contain 2 lbs. of phosphoric acid. On the other hand, our common kinds of grain—wheat, for example—leave only two per cent. of ash, of which one-half consists of phosphoric acid, or 100lbs. of wheat contain 1lb. of phosphoric acid. *Therefore, for laying on bone, or for supplying the materials of bone to growing stock, oil-cake is twice as valuable as wheat, weight for weight, and more than twice as valuable as oats or barley, which are covered with a husk.*

4. Again, the same reasoning shows that, as grains of all kinds draw their phosphoric acid from the soil, these oily seeds will exhaust the soil of its phosphates to a much greater degree than our corn-crops; 100 lbs. of linseed will carry off twice as much of them from the soil as 100lbs. of wheat.

5. But the same circumstances supply an additional reason why the manure of *full-grown* store stock fed upon oil-cake is so much richer than that obtained by the use of any other kind of food. It is richer, because the proportion of the protein compounds (albumen, &c.) in the oil-cake is greater than the fattening animal can appropriate, and thus much of them passes off in a more or less changed state, and is mixed with the dung. The oil also is in larger proportion than can at times be laid on their bodies even by fattening stock, and this unquestionably contributes to the fertilizing quality of the manure. But the full-grown animal appropriates scarcely any of the *phosphates*; the whole of these, therefore, which the animal consumes in its food, appears again in its dung. And the oil-cakes being richer in these phosphates, weight for weight, than any kind of grain used for food, the dung thus made is also richer in these phosphates than that which is obtained from animals fed upon almost any other kind of food.

Among other things, Professor Johnston travelled several months in different parts of the country, and delivered a series of lectures to various assemblies of farmers, after which an application was made by the parochial schoolmasters of Scotland for three lectures on the best mode of teaching the elements of Agricultural Chemistry to older boys in their schools. Professor Johnston complied with the request, and gave gratuitously the lectures solicited. They were attended by upwards of 400 schoolmasters, and excited among them the deepest interest.

We hope American schoolmasters will soon make a similar request, and that they may find some one equally competent to lecture to them as is Prof. Johnston.

HOW TO MAKE MEAD.—To one gallon of water add four pounds of pure honey, and aromatic herbs or not, according to taste. Boil the whole in a copper nearly three-quarters of an hour, and skim well. Then allow the mead to stand in the copper until nearly cold, when it should be bottled up and kept till old enough to drink.

SOILING, OR STALL-FEEDING.

THE advantages which arise from stall-feeding, in Europe, and in some parts of this country, are very great. The same number of animals are maintained on the produce of less than half the quantity of land that would be required, if the cattle were allowed to feed in the fields; but whether this plan can be adopted in all parts of the United States, yet remains to be proved. In general, land is cheap in this country, labor high, and produce usually brings moderate prices when compared with those of Europe. We think, however, that the subject is highly worthy of a series of experiments accurately made and recorded by competent persons residing in different parts of the country, and the results made known as proposed in our last number by Dr. Field.

The object of any judicious farmer should be, to improve his own condition, by improving the condition of his farm; and as this cannot be done without manure, and as manure cannot always be had without stock, it becomes a matter of prime consideration how the animals can be most economically maintained and made available, and by what management the largest quantity of manure can be obtained.

The experience of the best farmers in Europe and a few well authenticated cases in this country, prove that, by the growth of green crops, such as clover, rye-grass, lucerne, Indian corn, turnips, mangel-wurtzel, carrots, and cabbages, the same ground which in poor pasture would scarcely feed one cow in summer, will, under judicious management of the crops above mentioned, feed three the whole year round, if the cattle are kept and fed in the house; and further, that the manure produced by one of these cows so fed, and well bedded with the straw saved by using better food, will be equal to that produced by three cows pastured in summer, and kept badly littered in winter, with only straw and hay to eat. If therefore, three cows may thus be provided with food in the house all the year, from ground which will scarcely feed one under pasture for the summer; and if one cow so fed in the house will afford as much manure as three fed in the field; it follows that any one who may now be able to keep only one cow, would, by adopting this plan, be able to keep three, each producing as much manure as three cows fed in the usual way; and that he will have nine times as much manure by this method, as he would have by the old.

In proof of the advantages which attend the soiling of cattle, it may be stated, as the result of an experiment actually made in England with an acre and a half of red clover, that seven milch-cows were fed with the produce for 64 days, each cow being supplied with 168lbs. of clover daily, making in all 33½ tons of produce from the acre and a half of land, in the 64 days; and the value of the manure produced by the seven cows so fed was very great. Manure constitutes, in truth, one chief source of the farmer's wealth; yet from a too common disregard or mismanagement of this important element of fertility, what serious losses every year are sustained, not by the farmer only, but by the community at large.

To insure the advantages of stall-feeding, however, both as respects the health and progress of the cattle, and the collection of the manure, it is essential that the sheds, yards, and stalls should be so arranged as to economize labor, secure the warmth and comfort of the animals, and prevent the slightest waste of the manure, whether in a liquid or solid state. The urine should be preserved in tanks or pits filled with pulverized charcoal or peat, and the dung-yard should be deepened and hollowed out, so as to retain all the moisture of the manure, in order that not a drop may drain away and be lost to the farm.

Young animals requiring exercise, will generally grow better, and acquire more vigor in the open pasture, than when confined in a house or fold; but cows are impatient of heat, when the sun scorches and the gad-fly stings, and feeding them in houses increases their milk, and the manure is thereby preserved and greatly increased. Warmth and rest are necessary for the fattening of all animals, and these essentials are secured by stall-feeding.

A bullock fed in the house consumes much less food, and fattens much sooner, than if fed in the field, the difference amounting in many cases to one-half in favor of house-feeding. Heat and cold, and the variations of climate, affect cattle in the open field, whilst those under cover are protected; and much exercise prevents the secretion of fat. This applies equally well to sheep, pigs, and poultry, and by the judicious farmer, should never be lost sight of.

Working horses and oxen are greatly benefited by soiling, being saved thereby the labor of collecting their food, after their task is done. They can also fill themselves sooner, and consequently have more time for rest; and they repose much better in a stable or shed, with plenty of litter, than in an open field, where there are so many things to annoy them.

Bullocks fed in the house, become more tractable for work, and are free from many accidents and disorders. The size and symmetry of cattle thus fed and sheltered, show that stock so kept will generally surpass that which is exposed to the vicissitudes of climate and other circumstances inseparable from open grazing, even on the best pastures.

The practice of soiling cows and cattle, either tied up in stalls, or in sheds, or fed loose in the fold-yard, is not so general as that of horses; but since it answers for horses to be fed in the stable, there can be no reason why house-feeding should not answer for cattle. Any quantity of clover and other green crops, may be consumed in this way to the great benefit of the tillage-farmer, who always needs more manure than can be accumulated from the straw of his grain-crops alone; and it is obvious that a much larger quantity may be obtained by this practice, than in the ordinary way, while the quality is greatly superior.

When cattle are soiled in the open farm-yard, sheds should be fitted up in some convenient part of it, for shelter from the sun and rain. They may have the use of the yard for air and exercise, and when confined entirely in the stalls, they must be kept dry and perfectly clean. To allow them to

sleep or stand in wet, or dirt, would be very injurious,—lessening the milk in one case, and retarding the fattening in the other, and injuring their health in both.

In stall-feeding, the food should be given frequently and in small quantities. By a judicious mixture, and a regular supply, a much greater increase of flesh may be produced than by any irregular mode of feeding, however good the quality or abundant the quantity of the food. To over-feed, is as bad as to starve a beast, and it produces similar effects. On the least appearance of a loss of appetite, the quantity of food must be lessened.

When the diet of cows is suddenly changed from dry food to green, they are apt to injure themselves at first, by eating too eagerly of the green food; and on this account, care should be taken that they have not too much at once, but that it be given often and in small quantities.

Clover should be given sparingly at first; for if too abundant, or if it be given in a wet state, it is apt to bring on a disease called *hoving*, or swelling. This complaint is supposed to arise from the air, or gases generated by the fermentation of the clover in the stomach of the animal; and if relief is not speedily afforded, death is liable to ensue. The clover should be cut the day before it is given to the cattle, which will generally prevent their swelling; but if this disease should attack them, half a pint of train-oil, an egg-shellful of tar, or a pound of salt dissolved in water, will soon afford relief. Straw should be given with the clover as fodder, which will correct a tendency to looseness in the bowels. Pigs may also be soiled on clover with much advantage, and for that purpose alone there ought to be a small patch of this grass in every cottage garden.

In soiling, the cattle should always have an abundance of good water, and a careful person should be appointed to attend them, and to supply them regularly with fresh food. Indian corn or millet sown at different times, to be cut in succession, when the clover fails or becomes over-ripe, are highly useful, as the dairy cows will otherwise fall off in milk. In Holland, the cows are fed in the house, are supplied with water mixed with oil-cake, rye or oatmeal; and they are allowed a supply of salt, which conduces to their health, and improves the quality, and increases the quantity of their milk.

In feeding cows, it has been recommended to commence at six o'clock in the morning, with turnips, clover, or other green food, according to the season; and then to give a feed every two hours till night, with a small parcel of hay between each; that is, six feeds of green food, and five of hay each day, with hay at night. Two pounds of hay will be enough at each feed, and four pounds at night, which make fourteen pounds in twenty-four hours. The cows should have water twice a day. Sixty pounds of mangold wortzel, or turnips, per day, is enough for a cow. Previous to being given, the roots should be washed clean, and cut into large slices; if cut into small, round, or square pieces, there is more danger of choking than when cut into large slices. A little salt scattered on the roots, after being cut, will be very serviceable.

ble, care being taken, however, not to give too much. Indeed, a piece of rock-salt for the cattle to lick, will always be useful, and will serve to improve their condition and health.

Cows, when kept in the house, should be carefully curried and cleaned, which is absolutely necessary for their health, and will materially increase the quantity of milk. Too much pains cannot be taken in this respect. All stall-fed cattle should, in fact, be dressed and curried as carefully as a favorite horse. You cannot handle and familiarize your milch-cows too much, nor treat them too kindly; and, indeed, the same may be said of all your cattle.

Do not allow the chaff of your grain to be lost. If your cows are confined to dry food, at any time, the change from grass, or green crops, is apt to affect them; the dung becomes dry, the coat *stares*, and from the costive state of the bowels, diseases ensue, which sometimes end in the death of the animal. Now chaff is a good remedy in such cases, if well boiled and mashed up with potatoes and some seeds or bran added to make it palatable. A bushel given in this way, night and morning, will open the bowels, make the skin look sleek and healthy, and increase the quantity of milk. When the chaff of grain cannot be had, finely chopped hay or straw may be substituted. The mixture should be of such a consistency as to be easily stirred about with the hand. A greater quantity of potatoes may be given with advantage in this way, than in any other; but they must be boiled separately, for potatoe-water is injurious to cattle. The mixture may be improved by some ruta-baga turnips, which may be boiled with the chaff.

It may be imagined, perhaps, by some persons, that cows will give more milk when pastured in the field, than when fed in the house. This is altogether erroneous; for the less fatigue a cow has to undergo, in obtaining her food, the more milk will she yield; and the practice of leaving cows out during cold nights, or exposing them in summer to the heat and flies by day, is certainly injurious. In mild weather, however, they may be left out, if unavoidable, without much injury; but whenever circumstances admit, let the provender or grass be carried home, and given to the milch-cows within doors, leaving the young stock to pasture in the fields.

It has been estimated that the manure of one cow, fed and littered in the house, is sufficient to top-dress an acre of land; whereas, the dung of cattle, if left upon the grass, in an unfermented state, is injurious; for it prevents all growth for a time and afterwards raises tufts of coarse herbage, which cattle will not eat. The greater portion of the dung dropped in the fields, goes off in evaporation, and is lost; and grubs and flies are generated in and under it, whilst it remains; but if it were collected and spread at the proper season, it would improve the vegetation, and impart fertility to the soil.

In Switzerland, in very elevated situations, where grain does not ripen, the farmers, who depend chiefly on the produce of their cows, have the finest of herds, owing to the care taken in crossing the breeds and attending to the dressing and feeding of them regularly in folds, and stalls. Land, which, from its steepness, could only

be pastured by sheep or goats, is irrigated, top-dressed, and constantly mowed, to feed the cattle within doors, where they are regularly supplied with fresh grass; and the quantity of dung thus obtained, for top-dressing the grass-lands in the spring, keeps them in a high state of fertility. The same system prevails in the flat countries of Belgium and Holland, and is practised to a great extent in Britain, France and Spain, and is receiving increased attention we are pleased to see in the United States.

HORTICULTURAL TOOL-CHEST.

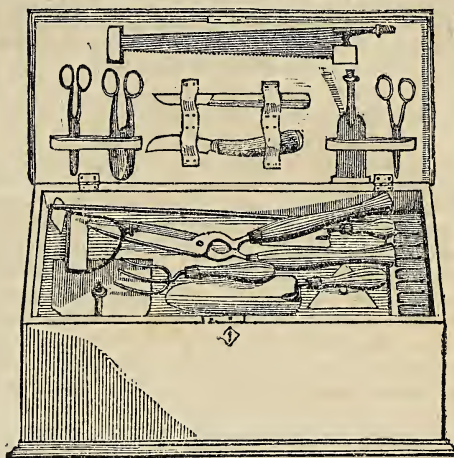


FIG. 29.

THE convenience of having at hand the requisite tools or implements for gardening and pruning purposes, and kept in a place where they can always be found, is obvious to every one. If suffered to lie, or be scattered about the premises, they are liable to be mislaid or lost, and more time is spent in looking them up than they are worth. These difficulties, we think, may be obviated by possessing a small tool-chest purposely adapted to keep them. It is very complete, with quite a variety of implements, only part of which are shown in the cut. The price, with all its fixtures, is \$18.

QUANTITY OF CORN TO AN ACRE.

We have often heard it remarked that 100 bushels of shelled corn never were raised upon an acre of land at a single crop; and if we recollect rightly, we read in the reported proceedings of a late meeting held in Boston, of the Legislative Agricultural Society, that there were several individuals present, who would be willing to go a long distance to see an acre of corn containing a crop of 100 bushels. For the benefit of all who may be sceptical on this point, we will give the result of a little experiment made by us a few weeks ago, and has since been repeated by others with but a trifling variation.

From five ears of Brown corn, nine or ten inches in length, we shelled a full quart, Winchester measure, which, when counted, contained 2,000 kernels, or 64,000 grains to a bushel. In referring to Mr. Brown's article on the cultivation of this corn, in our March No., it will be seen that he

plants his corn in hills, three feet apart one way and two feet the other; and that, at the first hoeing, he reserves three stalks to a hill, each of which, we may reasonably conclude, will produce one ear, and in many cases, two or more. Admitting that an acre thus planted will contain 7,260 hills, and that each hill will produce an equivalent of three ears, ten inches in length, the result, according to the premises above, will give $136\frac{1}{2}$ bushels of shelled corn!

NEW YORK FARMERS' CLUB.

For some weeks past the meetings of this Club have been well attended and much interest manifested, not only in the topics of discussion, but in the distribution of grafts, cuttings, and seeds. Although much may be said and done to little or no purpose by associations of this kind, yet an immense deal of good results from them, and it rarely happens that a farmer, or any one else, occupying a rod of ground who attends these meetings, will go away dissatisfied or unpaid for his trouble. At this club, he will generally meet persons of experience and intelligence from various parts of the world who can enlighten him, perhaps, in every department of agricultural knowledge; or if he chooses, he is not compelled to be the listener, but is kindly and thankfully permitted to impart whatever he knows, and to contribute for distribution whatever he may please.

The Turnip-Cabbage.—Mr. Samuel Allen presented a root-cabbage, weighing about 15 lbs. He remarked that the seed of this singular vegetable was from Russia, and he had understood that it was good for cattle, and yielded a heavy crop. He said that he had brought it for the purpose of gaining information as to its properties and uses, and desired that some member should take it home, plant it, preserve the seed, and return them with a report to the club.

Dr. Underhill replied, that this root is much cultivated in Germany, by the name of *Kohlrabi*, or ground-cabbage. He had raised it on his farm, he said, and that it kept well through the winter, and when boiled, the root tasted like a cabbage, but was of a coarse texture. (a.)

Silk-Grass, or Florida Hemp.—A letter was read from Richard H. Jones, of Charleston, S. C., asking for information as to the price per ton, for the well-prepared fibres of what he calls *Silk-Grass*, or *Yucca filamentosa*. He had understood that some dealers in flax and hemp, in the city of New York, had pronounced the foliaceous fibres of this plant to be worth \$135 per ton. If such should prove to be the case, he thinks that the South will become possessed of a new source of wealth. Mr. Jones requests information from those engaged in the manufacture of hemp and flaxen goods, as to the uses to which this article may be applied, and its value, when compared with that of flax and hemp. He also wishes to know what amount of fibre can be produced from an acre, the soil in which it will best flourish, the modes of culture, preparation of the article for market, and where and at what price he can procure the seed. (b.)

The first Seed-Store in New York.—Mr. Grant Thorburn rose and said, This is the first meeting

of this Club which I have attended. I am seventy-five years of age, and feel great pleasure in looking back to the early periods of my life—in tracing the providential occurrences of it. I began life as a maker of wrought-iron nails—after the old fashion, with a hammer; cut nails afterwards came in and cut me out. I then set up a grocery in order to maintain my little family; but a grocery was established opposite and cut me out, too. What seemed at first evils, I soon after found to be blessings. I had saved about \$100. I knew very little of plants or seeds, but happening one day in market to notice a plant in an earthen pot, I asked its name, and was told it was a geranium. I bought it, and thinking that the brick-colored pot would look better if it was painted green, I so painted it. The geranium was the rose kind. I thought it strange that such a green plant should have the smell of roses. I then got several pots and exposed them in my window. One day a coach passed, out of which a lady leaned to view my green pots. She stopped and bought some. This was in 1799. I then began to inquire for seeds—no one then made a business of selling them. I accidentally met with a man who had some, and I bought his stock for \$15, in April, 1801. These were soon sold, and I looked about for more, and found a lot of two barrels of imported seeds. I got them cheap, and sold them at apothecaries' profit. Then I hardly knew geranium from cabbage. I was the first to import the potatoe oats from Scotland. Since that I have sold seeds here to the amount of \$25,000 per annum. The celebrated William Cobbett once set up a seed-store in opposition to me. His public advertisements were, that he sold seeds from sunrise to sunset—I advertised that I sold them from sunrise to moonset! I beat him. On the subject of the potatoe, let me observe, I have lately sent to the Emperor of Russia ten pounds of potatoe seed at the price of twenty dollars the pound! And I now say, resort to the seeds! Save the seeds!

Culture of the Grape. Dr. R. T. Underhill having been called upon for information on this subject, remarked that the interest in the cultivation of the grape rapidly increases, and in a few years it will be more extensively raised. He had seen late publications [The February numbers of the Farmers' Library, and the American Agriculturist?] showing how to cultivate the grape in America. These directions may do well for Germany, he said, but not for this country. A vineyard cannot be made here as it is there. Cuttings will not answer to plant in our vineyards. They must first be started in a nursery and transplanted at two, three, or four years old, from the slip.

Mr. Browne here asked leave to inquire of Dr. Underhill whether Mr. Longworth of Cincinnati, and others, do not plant their vineyards with cuttings, and whether they would not live if screened from the intense heat of the sun in the early part of the season, and watered in times of drought.

Dr. U. replied that they might succeed in damp soils—but the more dry the soil the better the vines. Germans, here, he said, have tried watering them and have failed of success—the heat of summer is too great. The plan of watering vineyards made

by planting slips is too troublesome, and will not succeed. (c.)

We are now, continued Dr. U., in the season of grape-vine pruning, which may be continued for a month. Spur-pruning, he said, is generally practised in the city, but this will not do so well for the open vineyard. There we must cut away the old wood and bring in the new. By close pruning, we have less fruit, but more sugar, and are more sure of ripening the grapes. In France, he said the bleeding of the vine, by pruning, is injurious; but not so in Germany and with us.

(a) Kohlrabi (*Brassica oleracea caulio-rapa*, of De Candolle), or turnip-stemmed cabbage, comprises numerous sub-varieties; but those regarded as the best suited for field-culture are the large red and green sorts. It is said to have been brought originally from Siam, and is now much cultivated in Germany and the low countries, as well as in the north of France, where it is chiefly given to milch-cows, for which it appears to be well adapted on account of its possessing but little of the acidity or bitterness found in the turnip, which so often imparts a disagreeable flavor to butter and milk. The bulbs, which weigh from five to fifteen pounds each, are more nutritious than the turnip; and being of a close texture and less watery, they contain more food in the same space. They have a strong power of resistance to putrefaction, and consequent endurance of frost and wet. They produce as high as 18 tons per acre, or about the same as the rutabaga, or Swedish turnip; and the soil and culture that is suited to the one, are equally adapted to the other. They may be taken up in the fall before the closing of the ground, and stored like potatoes or turnips for winter use, or they may be suffered to remain in the ground until spring.

(b) The genus to which this plant belongs consists of evergreen shrubs, with the habit of palm-trees, and are natives of America from Virginia to the straits of Magellan. They usually thrive in a deep sandy soil or sandy loam, that is rather dry, and even will prosper close by the sea. They may be propagated either by suckers, which are thrown up by the roots, or by the side-shoots that are occasionally produced on the stem; or they may be raised from seeds, sown immediately after gathering, which will come up in a month or six weeks. The leaves of most of the species afford a fibre when treated like the stalks of hemp or flax, and have long been used by the Indians, in the manufacture of cordage, cloth, hammocks, or swinging beds.

The *Yucca gloriosa*, commonly called "Adam's Needle," and the *Yucca filamentosa*, or the "Thready Adam's Needle," are both natives from Virginia to Florida, and probably throughout the maritime parts of all the Southern States. The *Y. gloriosa*, although somewhat tender, has long been cultivated in the gardens and hot-houses of Europe, as well as those of America, and is greatly esteemed as an ornamental plant. The stalk or stem rises to a height of two or three feet, and is clothed with leaves almost to the ground. The leaves, which are broad and stiff, but thin, are of a dark-green color, and end in a sharp, black spine. The flowers usually grow in panicles on a slender stalk, which

springs from the centre of the leaves. They are bell-shaped, and hang loosely downwards, with each petal white within, but marked on the exterior with a purple stripe.

The *Y. filamentosa* grows to a height of five or six feet, with leaves and flower-stalk resembling those of the *Y. gloriosa*; but the leaves, which are obtuse, have no spines at their ends, and have long threads hanging down on their sides. The flowers are larger and whiter than those of the last-named species, and grow close to the stalk.

(c) Had not these remarks by Dr. Underhill applied directly to our article on the grape-vine in the February No., we should have been disposed to pass them in silence, as we often have done, as one of his well-intended, though "random shots;" but as they have already been heralded to the world through several prints, we feel bound in duty, both to the public and ourselves, to set the matter right. In the first place our article was written with the utmost care, having been drawn from sources founded on long experience, and, as we supposed, could not admit of a doubt. Furthermore, we have known from our boyhood that vines would grow from cuttings, in ordinary seasons, without any very extra care, which is fully corroborated by the following extract from a letter dated at Cincinnati, March 23d, 1847, from N. Longworth, Esq., whose renown, as a vine-grower, is too well known to be repeated here:—

"We usually plant cuttings, and it is invariably done when the person buys them, as roots would be too dear, and in favorable seasons but little advantage is gained. We never take the trouble to water the cuttings. In favorable seasons, but few die."

IS BLEEDING, CAUSED BY PRUNING, INJURIOUS TO THE VINE?

THAT the bleeding of the vine is not so serious an event as is generally believed, is well known to practical men, and they are certainly right; for the rising sap of the vine consists mainly of water, carbonic acid, and ammonia, all derived from the soil, and therefore from a source of inexhaustible supply. If no other matters were present, the vine would be of the nature of a slender water-pipe, through which this fluid passes in its way to the leaves; but it is not so. On the contrary, the rising sap also dissolves in its passage all soluble matters with which it is brought into contact, among which are, especially sugar and gum, the organizable matters out of which the future leaves and fruit must be prepared. Now, a plant cannot obtain, these substances from the soil; they lie in its own tissues and there only; and it is obvious that if they are all washed out by the passage of an enormous quantity of watery matter through the plant, most of which is wasted, there can be no formation of leaves, flowers, and fruit. Theoretically, therefore, bleeding is a dangerous circumstance, and may be fatal.

But in truth, Nature is so prodigal of all means or materials required for the security of life that exhaustion is by no means easy. Infinitely more of everything is provided than is really required, on purpose to compensate for accidents. A tree is

loaded with countless flowers; a hundredth part of them, when changed to fruit, is more than the plant can bear; they, therefore, drop off by thousands and strew the ground to the alarm of the inexperienced gardener, who is afterwards surprised at the appearance of an abundant crop. Strike a fir-tree in the spring, and forthwith the air is filled with myriads of millions of pollen-grains, provided for the fertilization of a few dozen cones; some hundreds of seeds receive the influence, the rest of the pollen-grains fly to waste. A calculation proving this, is to be found in the London Botanical Register, where the editor shows that 27,000,000,000 pollen-grains were provided on one plant of *Glycine sinensis*, in order to insure the fertilization of 4,050,000 seeds, or about 7000 pollen-grains to each seed! And so it is, with few exceptions, throughout nature. The starch, gum, or sugar lodged in a plant, however, is no exception. Some of those substances must be present; but they are provided in such prodigal abundance in the teeming bosom of Nature that common accidents can hardly exhaust them.

We would not, however, advise persons who have weak vines to disregard their bleeding; nor are we sure that the strongest and the most vigorous vines might not be injured by a continuance of profuse bleeding; although an occasional effort may be borne. A strong, robust man will bear the loss of a pint of blood without inconvenience; but take from him four times the quantity, and his nature will prostrate under the effort. In like manner, an ailing old man will perish under what a stout, healthy boy would endure without a complaint.

TO CURE RENNET-SKINS.

RENNET, or runnet, used in cheese-making, is made from the stomachs of calves, which are sometimes called "vells." As soon as the calf has sucked whatever he likes, he should be killed and the stomach immediately taken out. The coagulated or curdled milk should then be poured into a dish and examined; and any substance found in it, but curd, should be removed. The serum or watery part left in the stomach should be pressed out with a clean cloth. Then, as it is only the inner coat that is to be preserved, the outer skin should be well scraped, and all the fatty and useless covering thrown away. The curd should then be replaced in the stomach, and two gallons of strong brine with two lemons added to every six vells, and suffered to soak for ten or twelve hours. The lemons do away with any disagreeable smell, and give the rennet sweetness and agreeable flavor. Twenty or thirty gallons of vells may be made at a time, if convenient, as they are found to be much better when large quantities are made. After salting, the vells are hung up to dry, with a piece of flat wood put crosswise into each to stretch them out. When perfectly dried, they should appear somewhat of the color and texture of parchment. They should never be used in cheese-making, however, before they have stood at least two months; and they are still better at the end of a year; for, if they are not old, the rennet made from them will cause the cheese to "heave," and become full of holes or "eyes."

QUANTITY OF BROWN CORN NECESSARY TO PLANT AN ACRE.—From the data given in the article, page 141, the following table has been constructed, and may be relied upon as a general guide for knowing the quantity of this, or any other variety of corn having grains of about the same size, required to plant an acre of land with the hills at the usual distances apart.

Distances of hills apart.		Quantity required 4 grs. to a hill.	Quantity required 5 grs. to a hill.
Ft.	Ft.	Qrts. Dec.	Qrts. Dec.
3	by 2	14.52	18.15
3	" 3	9.68	12.10
3½	" 3	8.30	10.37
3½	" 3½	7.11	8.89
4	" 3	7.26	9.08
4	" 3½	6.22	7.78
4	" 4	5.44	6.80

TO DESTROY THE CANADA THISTLE.—We extract the following quaint directions for extirpating the Canada thistle, from a lady's portfolio, in which there is much good sense; yet we would not let these vile intruders have a chance of living until August merely for the sake of the experiment:—

"If thistles be cut in April,
They appear in a little while;
But if cut in May,
They peep out next day.
If cut in June,
They re-appear too soon;
If in July,
They'll hardly die;
But if cut in August,
Die they must."

TO PREPARE BEES-WAX.—To obtain wax, boil the combs in a strong muslin bag, in a saucepan, with water sufficient to keep the bag from burning; and whilst boiling, continue to press the bag with a wooden slice or spoon, to extract the whole, as you skim off the wax. Drop the wax into cold water, where it will swim on the surface. The wax thus obtained will still want refining, to effect which, place it in a clean saucepan, and melt it over a slow fire. Then pour off the clear wax into proper vessels and let it cool.

NEW YORK STATE AGRICULTURAL SOCIETY.—We invite attention to the Premium List of this society, published in the present number of our paper. They amount to upwards of \$3,000, in cash, besides a large number of books. The show is to come off on the 15th and 16th of September next, at Saratoga. The show ground to be enclosed will comprise an area of fifteen acres. Temporary buildings of ample dimensions will be erected within the enclosure, and every reasonable accommodation be provided for all exhibitors. Arrangements will be made with the several railroad companies for the gratuitous transportation of stock, as well as implements, &c., designed for exhibition. The hotels at Saratoga have agreed not to raise their prices above ordinary charges, which will be from one to two dollars per day, according to the style of the hotel at which visitors please to put up. Hon. Silas Wright, late governor of the State, will deliver the annual address upon the occasion.

ON MANURING PEAT-LANDS.

THE question often arises in the mind of the agriculturist, *why do peat soils require an application of manure?* Experiment has almost invariably proved, that if yard or mineral manures are copiously incorporated with peat soils, the favor is as promptly reciprocated as when they have been employed upon a diluvium, or alluvium soil.

Individuals of practical information only, reason upon this subject, something after this wise; that the substance composing peat-beds once possessed vitality, and that all the essential elements for maintaining life and growth were present; consequently, these essentials must still abound in the semi-decayed body, and why should these soils require additional organized matter in the form of yard-manure, to induce a good degree of productiveness? We conceive that there may be three reasons why productiveness is vastly augmented upon those lands by applying manures. Firstly, an excess of deleterious acids; secondly, want of appropriate inorganic nutriment; thirdly, want of one essential organic element.

First, that there is excess of deleterious acids which retard the growth of cultivated crops.

This proposition will be readily conceded, when we inquire from what class or classes of plants peat has originated. The first impulse given to a peat production, is the transportation of organic fragments by water to horizontal or slightly inclined grounds which produce a marsh.

Mosses, lichens, and reeds, take root upon this marsh, flourish through the summer, but are stricken down by autumnal frosts, and are succeeded by a more luxuriant growth the following season. Thus the destruction and reproduction of these annuals are perpetuated, each season's product becoming nutriment for their successors.

In a few years, there is such an immense accumulation of organized matter from perishing cryptogamous plants, and from the accessions made by water, that plants containing more woody tissue begin to thrive, such as the brake-fern; these disappear after a time, and are succeeded by marsh grasses (carexes), and stunted, low, land shrubs. These again are followed by larger shrubs and trees.

Lastly, when the bed has become deep, somewhat dryer and more perfectly decomposed, there emanate the sturdy oak, the saccharine maple, and majestic elm, the richest and most immense spontaneous vegetable productions of the earth.

By a cursory glance at the chemical nature of those plants which at different periods have flourished upon peat-beds, we discover in those first thriving, a superabundance of oxalic and tartaric acid, which afford not the slightest nutriment to cultivated plants. On the contrary, their presence is exceedingly pernicious to plants abounding in animal nutriment. Again, in the carexes or stunted trees, acidiferous compounds predominate, which in constitution are diametrically opposed to those occurring in cultivated plants.

If any considerable portion of these noxious compounds still remain in peat, by adding a substance that neutralizes their acidity, a mighty barrier to the prosperity of cultivated vegetation is removed.

Hence, when yard-manure, abundant in alkaline compounds, is added to soils abounding in acids, a non-injurious compound results. The same phenomenon occurs when gypsum or lime is incorporated with acidiferous soils.

The second defect is a want of appropriate inorganic nutriment. Although peat contains an abundance of silex, which is an important constituent in vegetable development, it may not, and, as we shall contend, does not contain a sufficiency of other elements no less essential than silica, in vegetable economy. We may here introduce a physiological axiom, which will enable us to comprehend the phenomenon attending the application of mineral manures, and to better appreciate the value and certain indispensability of inorganic fertilizers.

The truth is this; all plants require inorganic nutriment; each species will select those elements peculiar to itself; perfect development of any plant is not insured unless there is a sufficiency of every requisite element, be it ever so diminutive in quantity. The second and third clauses of this truth have a material bearing upon the condition and improvement of peat-lands.

Each plant electively gathers from the soil those elements most congenial to its own prosperity; else how should the ash of wheat yield eight times the amount of magnesia that potatoe-tops do, or oats contain fifty-three per cent. of silica, and beans only one per cent.; and why should there be six per cent. of soda in mangel wurtzel, and no traces of this alkali in oats all grown upon the same soil? Those organized bodies that now lie mouldering in peat beds were once hardy shrubs and forest-trees, requiring only those elements that would impart strength and inflexibility to their tissue, such as lime and silica; they predominate in the ash of forest-trees to the almost entire exclusion of magnesia, alumina, and phosphates, all of which are indispensable to a luxuriant growth of crops furnishing animal nutriment.

That a deficiency of an essential element produces an abortive crop, is strikingly illustrated in the culture of cereals; those sown upon soils containing an abundance of organic matter, lime, and soluble silica, produce gigantic stalks destitute of grain; by adding magnesia an exuberant growth of stalk is induced, bearing a withered grain, covered with an exceedingly tenacious epidermis. Again, add a compound yielding phosphoric acid to the soil, when a perfect plant is developed, bearing a due share of nutritious aliment; evidencing that the weal or woe of the crop was dependent upon the presence or absence of the last administered compound.

Practical experience has long since established the fact that cereals do not flourish so well as a first crop upon reclaimed peat lands; but that they are more successful after the land has received a dressing of yard or mineral manure, and has been ameliorated by tillage with other crops. Can any other cause be assigned for the increment given to the cereals, than that a deficient element has been supplied by the yard, or mineral manure? From this view of the inorganic ingredients in peat-soils we deduce two conclusions, showing the necessity of applying inorganic manures

First, that the organized substance constituting peat in its primeval or vital state, contained only traces of several inorganic constituents that are found abundant in cultivated plants. Second, that a portion of these diminutive constituents have during the process of decomposition combined with pernicious acids, and are consequently unavailable nutriment. Now to the third defect in peat-soils for the production of cultivated crops, viz: the want of one essential organic element.

Admitting that the four elements, carbon, hydrogen, oxygen, and nitrogen, are essential and did once exist in the substance that now composes the soil; we have now to inquire whether these elements exist in the present state of the organic matter, and whether the peat in itself is adequate to supply all the elements necessary for the growth of cultivated crops.

The organic portions of plants are mainly made up by the three elements, carbon, oxygen, and hydrogen, the per centage of nitrogen being exceedingly minute in all; but more especially in spontaneous ones. Chemical research has thoroughly established the fact, that but a diminutive quantity of nitrogen exists in spontaneous plants; which fact will be at once conceded, when we consider that upon the presence or absence of the azotized principle, depends the relative value of all fruits, grains, roots, and grasses, cultivated for animal subsistence. The major part of all peat-beds consisting of semi-decayed spontaneous plants, can contain only those elements peculiar to that class which, when compared with the cultivated ones, are found to be much inferior in the azotized principle. Allowing all the nitrogen contained in the growing forest yet to remain in the decomposing mass, this vital principle will not be found to that extent, that it is in animal excrement, or decomposing cultivated plants. But to allow the retention of all the elements composing an organic body, during the process of decomposition, would be an absolute violation of the immutable laws that govern the eremacausis or decay of bodies. During the transmutation of an organized body from an active to an inert state, a slow combustion is carried on, and there are incessantly gaseous products evolved; among the most abundant of these, is *nitrogen* in the form of *ammonia*. This compound is evolved most freely in the early stages of putrefaction, from the slight affinity it possesses for the substances with which it is associated. Consequently, a decaying body exposed to atmospheric agencies, is soon deprived of the all-essential principle, *azote*. Now, in the process of decomposition, which results in the formation of our peat beds, *azote* is the most important element eliminated; the decaying mass being deficient in ammoniacal attractions, which escapes with aqueous vapor into the atmosphere. This continuous process of elimination readily deprives the soil of its originally diminutive quantity of azote.

If then, the organized soil has relinquished in the putrefactive process, a greater portion of one of its pre-eminent constituents, it is evident, by supplying this deficiency in the form of animal emanations, the luxuriance of those crops requiring a large per centage of azotized nutriment, is greatly enhanced.

Hence, in the application of yard manure, abounding in alkalies and azotized compounds, to peat lands, two-fold results are attained, the alkalies neutralizing deleterious acids, and the azotized matters, by decomposition, supply the deficiency of azote.

By the use of mineral manures the same primary object is secured, as by the inorganic elements in yard-manure, and as a secondary effect, the unavailable nutritive compounds in the soil are gradually transformed into appropriate vegetable nutriment.

W.
Dutchess Agricultural Institute, Feb. 25, 1847.

THE HONEY-BEE.

I OBSERVE, with great pleasure, that a very sensible writer has commenced a series of articles in the *Agriculturist* on this valuable insect, which I hope he will continue until he has thoroughly investigated his subject.

There is no single domesticated thing so imperfectly understood as the honey-bee, and none so much the subject of whim, strange conceits, absurd maxims, and absolute nonsense, in their notions of their management. A pile of books, from first to last, has been written of their history and domestic habits; and after all, there is not one person in fifty who keeps them that knows how to manage them successfully. Many of the books which have been written about them are very good—among them Huber and Bevan rank high; while Thatcher, Weeks, and others, are so-so; yet all, according to my opinion, strangely misconceiving the best plans of increasing their numbers, and of obtaining the *greatest direct profit* from their labors. Many projectors have got up new-fashioned hives, full of queer devices and fancied improvements, for which they have obtained patents, and then have written a book to show the world how much better they were than anything else ever invented, which they have palmed off to an ignorant or thoughtless public; and thus each one in turn has run his brief career of popularity until the gullibility of the public became exhausted, and wound up his gimcracks as another added to the thousand and one humbugs of the day. For bee-hives alone, not less than fifty or sixty patents have been issued from the American Patent Office at Washington, not one of which is worth the journey there and back to get it registered.

The upshot of this whole matter of *Bee-ology* is, that we of the present day probably know no more of this insect than did the bee-masters of the Nile, who flourished under the dominion of the Pharaohs, or than the Chinese now, who tend their bees just as they did five thousand years ago. The fact is, that the honey-bee is a simple, unsophisticated, capricious creature; unimproved either by arts or education; working solely by *instinct*; incapable of ingenuity, and prone, at any favorable opportunity, to escape from the thralldom of man, and relapse into its original condition of barbarism and natural liberty. The bee is a denizen of the forest. Domestication is purely with it an artificial state, and a continual restraint upon its wild and roving propensities; and all the efforts of man to direct its operations, and confine its labors, or to

restrict its action through any other than the simplest contrivances will be found sadly at fault in the long run.

I have heard many wonderful stories of the doings of bees, and the success attending their management at times; but never a continuation of the story for a long series of years by a particularly artificial or complicated process. Some of them do pay very well for a time, but in the end generally blow up—bees, hives, honey and all—or rather, the hives get robbed of the honey, and the bees themselves either die, or join in robbing their own stores, or take to the woods, or some other more congenial home, where they can pursue their labors undisturbed by the *ingenuity* of man. Such, after twenty years of pretty “sharp practice,” as the lawyers say, has been my experience in bees. I have kept them in all ways, and after all methods—have been the willing victim, in a small way, of two or three remarkably clever hive-patentees—have had my hives two or three times depopulated—have started anew with fresh courage on another plan, and after exhausting all the books—for I have read a moderate wheel-barrow load of them—tossed all my gimcracks out of the window, or into the fire; and when I went back into the original plain box-plan of a single room, several years ago, I succeeded to admiration, and have since continued with more or less “good luck”—for I find bees are a wonderful creature of luck with the multitude—until the present time.

But I did not intend writing an essay on bees when I commenced this article. I leave that for Mr. Miner to do, who I find knows what he is about as well as his bees; and I presume before he gets through will tell us the entire story to any reasonable satisfaction. I only wish to say to him that he talks exactly right, as the facts will bear him out, and he has got hold of the true bee-philosophy. I simply want to ask him a question or two to get the benefit of his experience, after detailing my own mode of management. Now I keep say a dozen swarms—I never kill my bees to get their honey. It is cruel and unnecessary, besides being unprofitable. My rule is, the more hives, the more bees; the more bees the more honey. All within rule, understand, the size of hives, range of pasturage, &c. &c., as Mr. Miner directs. I have some of the chamber-hives as described in his second article, August No. of *Agriculturist*, but more of the simple box-plan of twelve inches square, as described in his July number. These last all have holes in the tops for capping on to each other, in which the bees store their surplus honey. The chamber-hives are occupied by boxes for the same purpose. I have rather preferred the simple box-plan, for a reason which I will presently give. I generally put the new or empty box under the full or working hive, and immediately stop the entrance to the latter, driving them through the empty one, which, if the other be full, and the season propitious, they at once proceed to fill. When this latter hive is filled, I take off the top or old one altogether, set it in a dark place—a dark cellar with a small light in it, through which bees that are in it escape to the other habitation, is best—and it is soon relieved of their presence. I some-

times put the empty hive on the top of the inhabited one, particularly if this latter be a young one, and thus succeed equally well in securing the honey. I last year obtained from one hive, through two applications of the empty box, over 80 pounds of the whitest and purest honey; from another about 70, and still another, about 60 pounds; and 50, 40, 30, &c., from others, without detriment to their winter stores. The season, however, was favorable. Some years the flowers are so scanty in honey as to yield the bees not enough even for their summer support, to say nothing of their winter-forage, and thus I have lost many swarms, and closed the season with a less number than I had in the spring.

Now the reason why I have preferred the simple box-plan is this; it is said that the bees, after the liberation of the young from the cell, do not throw out the case in which it was enclosed, but simply tramp, or press it down to the bottom, which, in process of time, partially fills the cell so that the young bee is restricted in its size and becomes small and feeble, and of course an imperfect bee, unable to perform its allotted task, and of consequence the young swarms ultimately die, and the hive becomes depopulated. Whereas by having a fresh and roomy comb for each, or perhaps every second year's breeding, the young are large, vigorous, and amply fitted to labor and direct their operations in the most vigorous manner. This fact seems to be pretty well settled among all thorough bee-masters; and some, to obviate the use of the old comb for breeding cells, in the month of March annually turn up their hives and cut all the comb which is accessible, for the purpose of having new breeding cells supplied. Another proof of the superiority of new comb for breeding is, that old hives frequently “run out,” as the term is, and die off, apparently of old age.

Now, if the chamber-plan be pursued, and the surplus honey for a series of years be taken through the partition above in the boxes, is there not danger of the evil occurring which I have mentioned? And if it be so, is not the open-box plan the best? I merely suggest these queries to Mr. Miner in the anticipation that he will be able to answer them from his own experience or observation, as intelligently as he has already discussed the subject, so far as he has progressed, and in every position of which I agree with him fully.

I really hope Mr. M. will pursue this interesting subject till he has exhausted it; for there is not a more agreeable or amusing object attached to rural life than the cultivation of bees; nor is there a more delicious, useful, or economical sweet than their honey. All can enjoy them with a proper knowledge of their wants and habits; and there is certainly no appendage to the cares of country life which is the subject of so much error and mismanagement, if not of arrant *humbug*, as the honey-bee.

L. F. ALLEN.

Black Rock, N. Y., April, 1847.

Look out for caterpillars and other vermine this month. Make a free use of the mop or garden-engine for destroying them.

PRESERVATION AND APPLICATION OF MANURES.—No. 4.

THE distinguished chemist Boussingault "estimates the solid and liquid excrements of a man at 618 pounds per annum, containing 18 pounds of nitrogen—a quantity sufficient to grow 836 pounds of wheat." This would be equivalent to three barrels of flour. Now, supposing there are only ten millions of adults, producing each nitrogen sufficient for three barrels of flour; and ten millions more producing only half that quantity, we should have of this indispensable ingredient, enough to produce, annually, forty-five millions of barrels of flour, being more than two barrels for each person, large and small. If the alkalies, and other inorganic elements which are shown above to be so essential to the preservation of the fertility of our soil, should exist, only to half the extent of nitrogen in human excrements, the advantages of saving and applying them to our soil would be unspeakably great. In suggesting a plan, by which such immense benefits can be secured to the country, and which will for ever prevent our soil from deteriorating, and even reinstate that which has been, in a great degree, exhausted by improvident cultivation, I cannot do better than copy from the Report of the Commissioner of Patents, for the present year, the following extract, accompanied with the suggestion, that this plan, instead of being confined to our large cities, ought to be extended to every town, village, hamlet, and private residence. In a word, that it should be so extensive as to save all the human excrements, solid and liquid, excepting, of course, those which are deposited on cultivated fields by work hands, during their daily avocations.

"We will make a simple suggestion to the public, without charge. Insert under each aperture of a privy, drawers made of wood, iron or metal, two feet wide, two feet deep, and any required length, with handles at each end, so that they can be as easily drawn out and handled as those of a desk. Put into these drawers peat, mixed with a little plaster of Paris or charcoal-dust, mixed with plaster, to the depth of six inches or a foot. Thus arranged, not the slightest unpleasant smell would arise from the privy; and every week or fortnight carts, with light boxes in them, should call at the house, and the drawers be emptied into them. In this way the yards would be purified of a shocking nuisance, and vast quantities of poudrette could be weekly manufactured, for which any company could well afford to pay the city of New York \$100,000 per annum."

For this highly useful suggestion, the Commissioner of Patents gives credit to the American Agriculturist, Volume 4th, page 116.

Where peat is not to be had, charcoal-dust and plaster of Paris, or either of them, may, perhaps, answer the purpose of fixing the ammonia of the excrements. But this is a matter that will soon be ascertained by experience, and the aid of a good chemist. The drawers under the privies must of course be water-tight, so that no part of the liquid excrements may be lost, for these are the most valuable parts of them.

If the great city of New York should take the lead, in the introduction of a practice which is des-

tined to be of such immense benefit to the country, she will be entitled to the gratitude of the whole nation. She will, at the same time that she is rendering an immense service to the agricultural interest, free herself from a most horrid nuisance, under which, in common with all other crowded cities, she is daily suffering the most serious evils. Next to the manures, which may be derived from human excrements, are, perhaps, ashes. These contain, not only alkalies in large quantities, but also most of the mineral elements, which enter into the composition of every description of plants. These are the very substances, which, as Liebig has abundantly shown, are by far the most important ingredients in all good soils. Other elements, such as oxygen, hydrogen, carbon, and nitrogen, are necessary, but these, except the latter, are abundantly supplied from the atmosphere; and it has been shown above, that the deficiency in the supply of nitrogen from the atmosphere can be more than compensated by a careful saving of human excrements and the manufacture of them into poudrette. But the supplying of our soil with the alkalies, and other mineral elements, which exist so abundantly in the ashes of all kinds of wood and plants, is an object of great importance, and one which demands the utmost care and circumspection. Not only should the ashes be saved, which result from the wood consumed as fuel, but also all that result from the burning of logs, brush, &c., in clearing plantations and clearing up woodland pastures. If not convenient to haul and spread these ashes immediately upon fields, which require to be furnished with alkalies and other mineral elements, they should be placed under cover, otherwise the rains, snows, and dews will dissolve the alkalies, combined with the ashes, and thus these highly useful substances will be carried down into the earth and all lost to the purposes of agriculture.

Ashes are frequently *leached* for the purpose of making potash, which is used in large quantities in manufacturing soap and glass. Soda may be applied to the purpose of making soap and glass as well as potash. And as this substance can easily be procured from sea-water, or common salt, Liebig observes, that by substituting it for potash, in making soap and glass, "it enables us to return to our fields all their potash—a most valuable and important manure—in the form of ashes." Leached ashes, though deprived of their potash, still contain several mineral elements, which render them very valuable for manure, and they should be carefully applied to soils deficient in such elements.

Crushed or ground bones are also a very valuable manure, particularly for grain crops. Liebig says, "one pound of bones contains as much phosphoric acid as a hundred weight of grain." Every pound of bone-dust, applied to a soil, is therefore equivalent to the production of a bushel and two thirds of wheat. So valuable a manure and so easily applied ought not to be neglected. Phosphoric acid readily combines with the alkalies, soda and potash; and the alkaline earths, lime and magnesia, forming phosphates. Liebig in the 16th of the letters above referred to, says, "My recent researches into the constituent ingredients of our cultivated fields have led me to the conclusion that

of all the elements furnished to plants by the soil, and ministering to their nourishment, the phosphate of lime, or, rather, the phosphates generally, must be regarded as the most important." Hence the importance of furnishing soils with alkalies, alkaline earths, and human urine, which abounds in sulphate of potash and soda; and phosphates of soda, ammonia, magnesia, and lime. On the subject of furnishing soils with the foregoing inorganic substances and of their great value, in rendering them productive, see Beatty on Agriculture, pp. 225—230

Lime is one of the most valuable alkaline earths, and the means of producing it, in limestone soils, is almost unlimited. It not only serves as a substitute, where other alkalies are deficient, but in its caustic state is the means of opening stiff clay-soils, and setting free their alkalies. Lime, judiciously applied, is therefore of great advantage to soils deficient in alkalies, and other mineral elements.

From the views already presented, it will be readily perceived why the shell-marls of Virginia and other Atlantic states are found to be such valuable manures. But I have already occupied too much space, and will conclude, by mentioning the fact, that Johnston, the celebrated agricultural chemist, "refers to a *very fertile soil*, containing less than a *half per cent.* of *organized substances*, but with a full supply of the proper *inorganic substances*; and to two other soils, having more than *twenty-five per cent.* of *organized substances*, which were barren and unfruitful, because of an almost total deficiency of some of the most important *inorganic matters*, to wit, lime, magnesia, potash, soda, phosphoric acid, sulphuric acid, and chlorine." Nothing can more strongly show the importance of *inorganic elements* in soils, to render them fertile.

A. BEATTY.

Prospect Hill, Ky., Dec., 1846.

PROPOSED PLAN FOR DRAINING THE MISSISSIPPI LANDS.

In reading the article entitled Letters from the South, in the March No. of the Agriculturist, I observe some suggestions are thrown out by the writer on the practicability of draining the alluvial lands on the Mississippi, with the view of rendering them fit for tillage. As this appears to be a subject of the utmost importance, in point of the economy and future prosperity of Louisiana and Mississippi, the following plan is offered, which, if not too expensive, it is believed, would prove feasible, and these lands might readily be reduced to a proper condition for the cultivation of cotton, rice, sugar-cane, Indian corn, and many other crops.

It appears that all along the banks of the Mississippi, the land is highest, while the portion remote from them gradually subsides into irreclaimable swamps, and frequently into navigable lakes or lagoons, which communicate with the main stream by numerous smaller channels or bayous; that the natural elevation of the banks is not sufficient to prevent an overflow by floods, unless secured by artificial embankments, usually known on this river by the name of *levées*; and that these embankments often, though imperfectly, effect the object in view, as the porosity of the soil admits the passage of the water in consequence of its increased height

above the adjoining lands, and proves fatal to the success of the crops.

The plan I would propose, to obviate these difficulties, would be, first, to construct entirely around the tract intended to be reclaimed (say two square miles), a substantial dike of a sufficient strength, breadth, and height, to resist the flow of the highest floods. This, I conceive, can be done by forming a series of ditches or channels, as indicated in the adjoining figure, all dug to a uniform level, with the

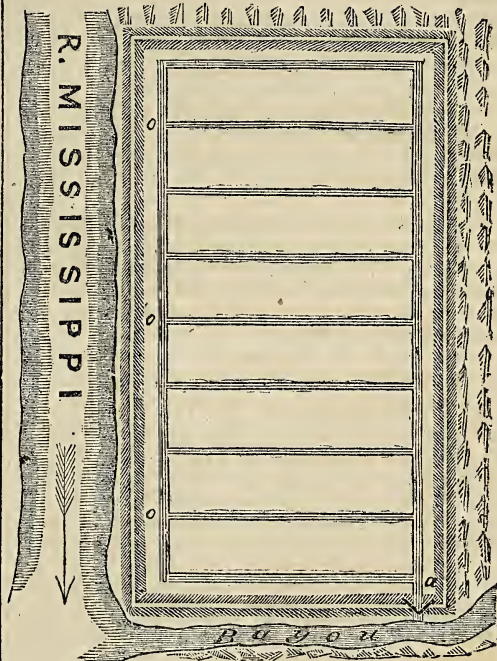


FIGURE 30.

ones outermost of sufficient widths to furnish the materials for making the dykes. The last named ditches should be situated at least thirty feet from the inner slopes of the embankments, and all the ditches, as well as the dykes, should slope on their sides, one and a half to one, in order to prevent sliding or caving away. At the bottom of the outer slope, on the *berm*, or space between the embankment and the river-brink, willows and other aquatic shrubs may be encouraged to grow, to protect the works from further encroachments from floods.

In order to dispose of the water that may be accumulated in the ditches, from rains, springs, or percolation, a self-acting flood-gate may be constructed at a convenient point for discharge, as at *a*, which will always keep open so long as the surface of the river is lower than that of the ditches; but as soon as the river rises above the surface of the water in the ditches, the flood-gate will close of its own accord, and so continue until the river again falls to its former level. During the period in which the flood-gates are closed, it is obvious that whatever water may accumulate in the ditches by rains or other causes, must be removed by mechanical means. This may be done in various

ways; but the mode preferable to adopt, which is practicable, would be to employ the current of the river for a motive power, and this too, without resorting to pumps and the ordinary machines for raising water, which require constant attention and are always subject to repairs. The mode referred to is, to place the ends of a series of tubes in the ditches, as at o, o, o, with the other ends communicating with certain contrivances in the river to be acted upon by the current, and by that means the space inclosed may be completely drained. As these contrivances cannot be clearly understood without the aid of models, or several diagrams at least, a further description would seem to be foreign to the present purpose. At a future time, however, should these few hints awaken attention to the subject, if called upon by any one interested in an enterprise of the kind, I would be willing further to enlighten them on these points. B.

The writer above is personally known to us, and has had considerable experience in draining on a large scale. We are not fully acquainted with his mode of discharging water by means of a current, but trust, if called upon, as he suggests, his plan would be fully explained.

CULTURE OF THE PEACH-TREE.

IN perusing the January No., Vol. 6, of the Agriculturist, my attention was soon drawn to the article headed "Cultivation of Fruit-trees" over the signature of "An Amateur," asking various questions touching their practical management; and in the notes which immediately followed, allow me to observe, that I, for one, was not only perfectly satisfied, but very agreeably entertained and much instructed by the very able and scientific, yet practical treatment of the various interrogatories. Such plain information is genuine coin for the farmer, and if he does not avail himself of it, why who is to blame? The truth is, we have a country, a soil, and a climate adapted to the rapid and healthy growth of a great variety of fruits; and by a little well-directed care and management, through the aid of the various channels of information within the reach of all, there is open a great field for enterprise and usefulness. But if we do not avail ourselves of these many privileges, again I say, who is at fault? Echo says *who*? In the last clause of the article above alluded to, I was not a little amused at the delicate hit of the writer about the management of the "peach-tree." My sympathies were immediately enlisted, and though, as the writer very timely observes, it is a subject somewhat "prolific of disputes," yet, I have thought it might not be out of place for me to cast in the mite I have collected from my experience and observation.

On the culture of the peach, much has been said and very much written. I am well aware it is a subject fraught with endless theories. Much effort and enterprise have been expended in its cultivation, and many experiments are continually being made to stay the march of its known foes. But in experimenting, consider it not out of place for me here to observe, that success in one instance will not always insure success in another, as cases may

only be *apparently* similar, a difference of soil and the age of the tree having a bearing upon the effect of the experiment. Thus one tree thoroughly purged of the "varmints" may thrive rapidly, and bear fruit a number of years; another tree may be doctored of the worms and soon after perish with the *yellows*; and no apparent difference in the two at the time of the application. Experiments in the cultivation of the peach have, however, been sufficiently extensive and varied to demonstrate its entire practicability. To illustrate this position is my present object.

And first in order is the propagation of healthy stocks. To obtain these *healthy* and *sound*, is the grand desideratum. The popular method, in New Jersey, is the following:—We prefer to have pits from Virginia, as it is generally conceded they are comparatively the most healthy. They are deposited in the fall of the year in beds of fine soil, covered about three or four inches over with fine mould, where they remain until spring, when, as they sprout, they are transferred to the nursery, and planted out in rows four feet apart and about eight or ten inches in the rows. A full acre planted in this way will hold about 13,000 trees. Such as do not sprout of themselves may either be cracked or left in the bed another year. They are budded the same season in August or September with choice fruit, care being taken to select the buds from trees that have every appearance of being *perfectly healthy*. It is calculated this method will secure, as far as the judgment of man is concerned, sound and healthy trees for the orchard. But it is not common for disease in the peach-tree to show itself so young, as it does when removed from the nursery, being generally then but two years old. It is in the orchard and garden that we naturally expect the first symptoms of disease. It is here that the most skilful cultivator is baffled in his efforts to mature this most luscious fruit. It is the two prominent diseases noticed above, the "worms" and the "yellows," of which I propose next to treat.

My own experience has never yet taught me at what precise time to look for the first attack of the peach-borer. The presence of the worm is known by a peculiar jelly or gum oozing from the trunk of the tree near the surface of the ground, the favored spot for its operations. It is very often found the first season of planting out for bearing, and not unfrequently in the nursery. An idea has here occurred to me, I think very important to notice, lest cultivators confound or unite the two diseases, the worms and the yellows. My practice has convinced me that they are entirely separate and distinct. I have known a tree to die of the yellows with not a sign or mark of a worm at the root, and again others have been destroyed by the worm which were entirely free from any appearance of the yellows. I have tried experiment after experiment, and am still ignorant of the use of any substance, sufficiently economical to become of general use, that can be *positively* relied upon as a *sure* and *certain* preventive. I have tried salt, tar, tan-bark, charcoal, fine hard coal, ashes, lime, soap, straw, etc., etc. Now the use of ashes, coal, lime, and the like, are of *some* value, as from their offensive properties they are supposed to be obnoxious to

the worm. But when once it has carved its way through, and found a resting place beneath the surface of the bark, the application of any of the above-named substances seems entirely useless, as they cannot reach or in any way affect the worm. When ashes, lime, etc., is used, I would recommend from one to eight to be thrown out at the base of the tree, and on the surface of the earth, entirely surrounding the body. A tree would not, of course, bear the use of as much salt. Straw bound around the tree with wisps of the same extending some four inches below, and eight inches above the surface, might assist for some little time in keeping off the insect; but the straw would soon decay, and the process would be considered too tedious to be often renewed in large orchards. But still bear in mind, none of these substances are to be invariably relied on as a positive preventative. Like many other good things, the peach-tree not only deserves but requires some attention. Let the tree be carefully watched, and the worm often searched for. Clear away the dirt, scrape the bark clean, dig but the "varmint," and cut off his head. Then as you replace the dirt, throw around the tree, as before directed, some ashes, lime, or fine charcoal. As a moderate use of these is not injurious to the tree, and being somewhat nauseous to the worm, they may assist in preserving the tree for a time. A small mound of earth heaped about the body of the tree, at the time of setting out, may be found useful, as at every hoeing of the ground some little may be drawn away, and thus expose directly the spot most likely to be attacked. One other plan I would only suggest, having never tried it. Trees have often been noticed to thrive and bear well when growing in a very stony hedge-row, or close alongside a rough stone fence. This I have seen in orchards where the ground is very stony, and we have thousands of such acres in Jersey: a heap of stones about the body of the tree might answer a very good purpose. I hope soon to see it effectually tried. A heap of stones is indeed quite indefinite, but one's own judgment will dictate the proper quantity; when stones are very plenty I would have them piled neatly about the tree, say three feet in diameter and one and a half or two feet in height. If this should succeed, a double purpose would be gained, as all after-culture might be with the plough and harrow, the hoe or spade being dispensed with.

As for the yellows, I have never known, read, or heard of a remedy for them. My plan with the yellows is as with the knots on plum-trees. At the very first appearance I would utterly annihilate and consume by fire every vestige of them. A tree affected with the disease generally bears tasteless and insipid fruit. Lose no time, but dig up and burn up the whole tree. I have known the yellows to occur in almost every imaginable location, in rich garden soil and on poor mountain-land, in orchards beautifully cultivated, and in orchards unwisely neglected. I have known trees clothed with a beautiful, very healthy looking dark green foliage, growing very thrifty, yet showing unerring signs of disease. I consider it of no practical importance to know whether or not it is "contagious."

The above advice will be found, I think, practicable, as due calculation can be made in supplying trees for a few to be lost every year. Indeed, the trees are so easily procured, and so very cheap (\$6 per hundred in this part of Jersey), I always think it decidedly the best plan, if one would secure a constant succession of fruit-trees, to set out some trees every year. The best orchards in West Jersey are kept in constant cultivation until the bearing year, when buckwheat may be sown with advantage over the whole orchard, to save the labor of hoeing and working down the weeds. This answers well to keep the orchard clean of weeds. In gathering the fruit, the buckwheat is more or less trampled down; but when the peach-harvest is over with, if there is any buckwheat ripe and worth cutting let it be gathered, if you only get enough to seed it again in the same way another season. There will be so much saved, as you will have gained the purpose for which it was originally sowed. W. D.

Morris Co., N. J., March, 1847.

LETTERS FROM THE SOUTH.—No. 7.

New Orleans.—There are two prominent features of this place that unsettle every preconceived opinion of those who visit it. The first is an apparent change in the points of compass, as the river, whose general course is south, flows past the city nearly due north. This confusion is "worse confounded" in consequence of a whirl in the current at the centre of the crescent, which makes a vast eddy the whole length of the steamboat landing, and sends the unfastened sterns of the moored craft directly up stream. The second is owing to the peculiar conformation of the surface, previously mentioned in speaking of the delta of this region, and consists in the declination of the streets from the bank of the river to their farthest extremities. What is everywhere else the foot of the street, is here the head or highest elevation.

No part of the surface occupied as the city, varies three feet. The general elevation is but five feet above that of the gulf. Throughout the spring and the first two summer months, the water is usually higher than the general surface, and for some weeks past, has been about four feet above it. Nothing short of a continuous levée, on either side, from near the gulf to the high lands above, would prevent a general inundation. It is a fearful consideration, that millions of acres of highly cultivated land, and tens of millions of property, and a vast population, are all at the mercy of this terrific stream, whose waters are now rushing along on their downward course to the ocean, within a few inches of the utmost height of the embankment. Immense devastation is sometimes occasioned by a *crévasse* or break in the levée; but this is so well secured that it seldom occurs except in the highest stage of water.

It is a question which the future only can solve, how far this artificial restraint of the waters will effect the character of the stream. M. De Prouy asserts, that since the Adige and the Po of Italy have been shut in by embankments, the deposits on the bottom have raised their surfaces far above the intervening territory, and that the water in the

latter is now above the roofs of the houses in Ferrara. He suggests as a remedy for the constantly increasing elevation, additional outlets from the stream to the Mediterranean, by artificial excavations at remote distances from their mouths. How far even this would tend to remedy the evil, may justly be considered, at best, as only problematical. Philosophical speculation or even experience may busy itself as to the future; but the vast elements of this mighty stream (the largest on the globe), the rolling flood and the solid elements which it holds in suspension,* governed by laws over which man can have no control, will probably for ever defy any successful interference from his puny efforts.

One is constantly reminded of the isolated position of this city and the surrounding country, and although with an immeasurably larger range, it is yet almost as completely invested by water as Venice, the queen of the Adriatic. A single road leading past the city on the banks of the river, is the only one admitting egress from it, and even this is little used. Almost the entire travelling and business is by water-craft. There is a pleasant drive of a few miles in the suburbs, on the shell road and Metairie ridge, but all else is confined to the ordinary streets. Two canals, whose surface is from 6 to 36 inches below the general level, and one railroad lead from the city to lake Ponchartrain, about 6 miles. The former are inlets for quite a little fleet of schooners and other small craft, that coast along the lakes and Gulf, and are principally engaged in bringing lumber, fuel, and market supplies. One railroad extends to Carrollton, a pleasant village 6 miles above, and still another, the Mexican Gulf, runs eastwardly to lake Borgne. Most of the Mobile and some other boats make their landing in lake Ponchartrain, near the outlets of the Canals, where from the gradually receding shore, the land and water are with difficulty brought together by an interminable projection of wharf on one side, and an equally extended excavation on the other.

The centre wharf, which is over half a mile in length by 500 to 600 feet wide, is occupied exclusively for the river steamboats, from 40 to 60 of which are constantly moored there, receiving or delivering freight and passengers. First above these, lie the flat boats in compact acres; then the small gulf or coasting schooners; and still further above, a long line of ships and Atlantic vessels, a few small craft, picayune wherries, market sailboats, &c., flank the steamboats below, which are succeeded by the largest class of vessels as far as the eye can reach. Near the centre, these lie three or four deep and at touching distance; but gradually become less compact as the wings expand, till four or five miles of wharf are occupied with the floating craft which have been called hither at the beck of this young commercial giant.

The city proper is divided into three municipalities. The first occupies the centre and comprises the ancient city; above it is the second, and below, the third. Above the second lie Lafayette, Freeport,

Bouigny, and Carrollton, all destined hereafter to be embraced in the extending area of the metropolis. Each municipality has its own aldermen, recorder, and other local officers, and levies and expends its own taxes; but all are combined under a federal head, for the exercise of more general powers, the appointment of a police, &c. The creation of distinct and separate legislative and executive powers was effected in 1836, to enable its citizens of the second, who are mostly from the northern and middle states, to carry out their schemes for improvement, which were frustrated by the more stationary views of the original occupants. Within twenty years, and after the first was densely populated and substantially built up, most of the second municipality was a cane-brake and marsh. Now it has by far the finest buildings in the city. Within it are the St. Charles, the Verandah, and several other hotels; nearly all the protestant churches; numerous good *public schools*; the greater part of the cotton presses; the gas and water works, &c., &c.; and much the largest proportion of the wholesale trade, together with the steamboat and vessel agencies; there also are conducted the sugar and grain transactions, and the banking operations.*

The modern brick buildings, both stores and dwellings, are similar to those of northern cities, except that there are neither cellars nor basements; and there is scarcely a house of two or more stories, without balconies on one or more sides of the second and sometimes third floors. More than one-half the dwellings are of one story, with high, peaked roofs, dormer windows, and far projecting roofs, the latter frequently supported on slender pillars, and enclosing a porch with light railing or lattice-work. They have a decidedly foreign aspect; and with the trailing ivy, the Cherokee rose, or other runners which sometimes clamber over them 30 feet from the ground, the better class of these cottages have an appearance that equally gratifies the taste and the requirements of a sultry climate.

There are no extensive ornamental grounds in this vicinity; but much attention has been bestowed on many of the smaller enclosures, which sometimes embrace an entire square. A general style consists in a hedge of the green-leaved orange, 20 feet in height, covered till December with its golden fruits, or if the sour orange be used, the fruit is perpetually on the trees. The crape myrtle is sometimes substituted for the orange, and is somewhat taller and more bushy. The myrtle is generally interlaced with the Cherokee rose; and not unfrequently, the latter is the exclusive substitute for each of the others. Within, are the magnolia, the arbor vita, or other evergreens of the fir-tribe; the banana and spiked palmetto; the luxuriant tea and other roses, and numerous varieties of the floral

* Col. Girault asserts, that a point on the west side of the Mississippi, above Natchez, had been extended one-fourth of a mile in 30 years. Within about the same period, one-tenth of a mile in width, has been deposited opposite the steamboat landing at New Orleans

* An error has been recently detected in the census of this place, as taken for 1840. It then stood in round numbers, at 102,000, of which the 2d municipality furnished a little over 20,600 and the 1st and 3d about 78,000. Now the 2d has about 43,000 and both the others 52,000! The former has nearly doubled, while the two latter have apparently lost one-third each, and that, too, while they have been supposed to be on the increase. Some of the worthy schepens and burgomasters can only account for this loss, from the fact that, in the former census, the returns were paid for at so much a head, and that more citizens were hunted up under this improved system. But the result, however explained, shows conclusively the rapid growth of this portion of the city

family, whose foliage and blossoms are almost perennial. Bricks are generally used for the walls, and sometimes to circumscribe the luxuriant borders to a stiff, unmeaning piece of tasteless or grotesque patchwork; but the use of the small white shells, which abound on the banks of the numerous surrounding bayous and lakes, gives a tasteful and cleanly aspect to the borders which is not surpassed by the best gravel. The *Morus multicaulis* is much used here as an ornamental tree. It grows luxuriantly, and with a graceful top. It is among the earliest of the trees of this climate. The leaves made their appearance in February, and are now fully expanded. The sycamore is much used in the public squares, and appears to flourish. A few willows are to be found, but no elms. In place of these, where the grounds are sufficiently large, the *live oak* rears its magnificent crest; and with its symmetrical outlines, its frequently pendent limbs, and the long festoons of silver moss, which almost sweep the ground and are swayed by every breeze, it fully makes up for the absence of both the others. These are sometimes of great size. I measured one in the suburbs, whose limbs shot out *horizontally*, 8

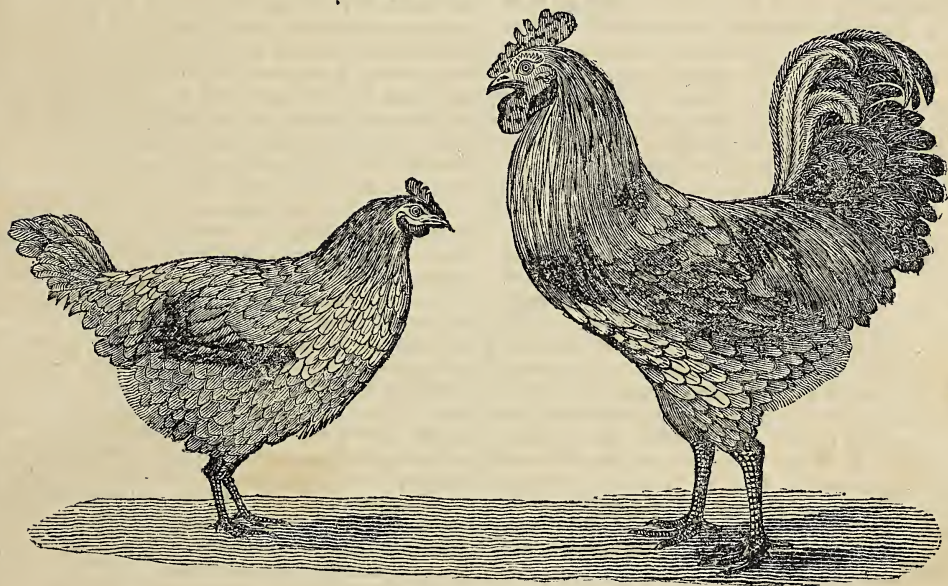
feet above the ground, to the distance of 40 feet from the trunk in every direction, the latter being about 5 feet diameter, and the apex of the flattened regular dome of branches apparently not exceeding 50 feet.

The population of the city, like the delta which it occupies, is drawn from remote and diversified sources, and is the subject of continual transition and change. There is a large substratum of the ebony African, with every shade of griffe (or brown), mulatto and quadroon. The Creoles (natives of this region), mostly descended from the French, but many from the Spaniards, the Germans, and the Americans, are numerous; as are also the emigrants from Europe. But by far the largest proportion of professional and business men are natives of the Atlantic states; and it is to the intelligence, enterprise and activity of these, that New Orleans is mainly indebted for the rapid advance she is making in population and wealth. But I may not longer take up the columns of the *Agriculturist* with a subject not purely agricultural, and shall turn my attention to the plantations in this vicinity in my next.

R. L. ALLEN.

New Orleans, March 20, 1847.

COCHIN-CHINA FOWLS.



COCHIN-CHINA FOWLS.—FIG. 31.

THE above are said to be very faithful portraits of the Cochin-China fowls recently introduced into Great Britain by Queen Victoria. They are the largest and most magnificent of the domestic breed known. They were supposed at first to belong to the family of Bustards, but it is now settled that they are genuine poultry. The cocks of this breed, well fatted, weigh alive from 12 to 15 lbs.; hens, from 9 to 12 lbs. Their general color, according to Richardson, is a rich, glossy brown, or deep bay; on the breast is a marking of a blackish color, and of the shape of a horse-shoe; the comb is of a medium size, serrated, but not deeply so, and the wattles are double. Besides their gigantic size,

however, these fowl possess other distinctive characteristics, among which may be enumerated the following:—the disposition of the feathers on the back of the cock's neck is *reversed*, these being turned upwards; the wing is jointed, so that the posterior half can, at pleasure, be doubled up, and brought forward between the anterior half and the body.

"I am not aware," he adds, "whether trial has, as yet, been made of the flesh; but from the white color, and delicate appearance of the skin, I feel confident that they would afford a luxurious and a princely dish. The eggs laid by the hen of this variety are said to be large, of a chocolate-color, and to possess a very

delicate flavor. One of the hens, Bessy, exhibited by Her Majesty, laid 94 eggs in 103 days."

The Cochín-China cock has been crossed with the Dorking hen, and the produce is said to be superb. Pullets of this cross have been known to weigh 10 lbs. each at six months old. If the above portraits be correct, we should be afraid the cross would add too great a length of leg to the Dorking, and we very much doubt whether the best specimens could be improved by it. But there are poultry fanciers who will have size let the shape and other qualities of the birds be as they may. For our own part, we much prefer medium-sized poultry as most delicate and profitable.

We are not aware that any genuine Cochín-China fowls have been introduced into this country. A Mr. Nolan has recently imported them into Ireland, and the Queen of England has occasionally made presents of them among her noblemen. We do not know how they can be procured except direct from Cochín-China; and we must say to our friends in advance, that we cannot undertake their importation from any quarter. We here give them all the information we have upon this interesting subject.

NECESSITY OF INDUSTRY AND FIXED HABITS OF THE PLANTER.

It is a very common saying, that "an overseer understands better the business of his employer, than he does himself." If such be true, and the planter can afford it, he had best sell his property and live on the interest. In cases of that kind, it shows clearly two things; one is, that such a planter dislikes his business and will not try to learn its duties, or the other is, he is either sadly deficient in mind or energy. I do not mean by this that an overseer is incompetent to the task of judicious management; far from it, as I have seen some excellent planters and managers; but what I mean is this, that all planters should be fully competent to instruct others when necessary, and never to be at a loss at any time on his own estates. Again, the duties of a planter embrace a much wider scope than that of an overseer. One must plan for the other to execute, and with the one and the other, success should be the result. There is no duty whatever pertaining to the plantation, from the lowest to the highest, but what a good planter should understand, and be able to have properly managed or executed if necessary. He should feel at home at all times.

If a man is true to his interest, policy dictates that he should be permanently located, at an early period of his life. The unsettled man may be compared to the "rolling stone that gathers no moss." Hence the necessity of understanding thoroughly the proper mode of cultivation and the management of lands. Generally speaking the migrating man belongs to that class of planters who are careless of the soil, exhaust it for present crops, without an eye to the future. His lands are heavily taxed by injudicious management, and before he has secured the value of the labor bestowed in clearing them, he is left with a crippled plantation yielding but a poor crop. To move in quest of the virgin soil again, is but incurring heavy expenses, hard labor, loss of time, deprivations innumerable, and parting with many things, apparently of no value,

until want demands them. Such men are enemies particularly to their children, for they are always in advance of civilization, and the inheritance to be hoped for is property without that knowledge which renders the property more useful. The settled and contented man is by far the most prosperous in the long run; if he makes not rapidly, it is sure and safe. His calculations are based upon experience; familiar with all things around him, his path is plain, his land-marks are established, his confidence is sure, all whom he meets are known, his children are provided for, and their education regarded. How different is the wanderer, who lives and dies among strangers, and in a strange land! Such are the considerations which should govern a planter, in attending to the duties of his occupation; hence the necessity of industry and a proper knowledge of his business. J. H. D.

Barbour Co., Ala., Feb., 1847.

A TRAVELLING CIDER-MILL.

As you wish the farmers to send in their facts, I will give you a new plan for making cider. I have invented a *Travelling Cider-Mill and Press*, so constructed that it can be moved about from one farm to another by two pair of horses, or of oxen. My neighbors laughed at me when I told them what I was about, and said it would not do. I told them that was my business, not theirs,—so when the mill was finished and well at work, grinding the apples and pressing out the cider at the same time, and this too in a perfect manner, they came flocking in numbers, not a few, as much pleased as though I had been grinding with the "elephant."

Last fall this mill travelled about from orchard to orchard, and made 237 barrels of cider, sometimes making as many as thirteen barrels a day. This shows, as a certain *jumper* said, "some things can be done as well as others." The mill and press can be made in this place for about \$20. If you want a description of my mill, I will give it to you some other time.

JOHN WILSON.

Union Mills, Erie Co., Pa., March, 1847.

A REMEDY FOR DISEASED PEACH-TREES.—Among all the remedies for the prevention and cure of the diseases of the peach-tree, which have been recommended, there is one that I do not recollect to have seen mentioned, and, as far as my observation extends, is of more value than all the rest put together. That is chamber-lye or urine. If those who have peach-trees will save this article and put it on the roots of the trees, instead of throwing it in the sink, I can assure them that they will not be troubled with worms or the yellows, but will have healthy trees and plenty of peaches. M.

New York, March 24, 1847.

TO DESTROY WEEDS IN GRAVEL-WALKS.—Of all the excellent recipes for keeping pavements and garden-walks free from grass and weeds, none is so effectual as to hire the cook to pour upon them every morning the water in which the eggs for breakfast have been boiled; but the virtue is entirely lost if it be not done the instant the skillet is taken from the fire—that is, the water must be *boiling-hot*.

REVIEW OF THE NOVEMBER AND DECEMBER NOS. OF THE AGRICULTURIST.

Noxious Effects of Gases of Brick-Kilns on Fruits and Vegetation.—Now, it appears to me, that this matter all lies in a nut-shell. "Everybody knows" that the gas arising from burning coal is injurious, but is it so from a wood-fire? Then if the kilns noticed by Dr. Underhill were burnt with coal, which I presume they were, the story is all told—for the gas is that arising from the sulphur burning in the coal and not from burnt clay.

British and Irish Flax-Culture.—Its history, etc., but nothing of *American flax-culture*. For that is among the unknown things. And yet Solomon in all his glory could not convince me that it would not afford more profit to the culturist, either for seed or lint, than I have shown that the culture of wheat affords. I am satisfied from personal observation, that a vast portion of the virgin-soil of Ohio, Indiana, Illinois, Wisconsin, Iowa, and Missouri, is well adapted to the growth of flax; and yet how little of it is grown. The reason, it is said, is, that the price is too low. And yet in this No. of the *Agriculturist*, now under review, flax is quoted at seven and eight cents a pound, and flour at three cents.

It is wondrous strange if flour can be delivered in New York City for less than one-half the price per pound of flax.

Preservation of Potatoes.—I beg leave to call the attention of the American Agricultural Association to this article, and that they take immediate steps to test its truth, and publish the result, as it is of vast importance if true.

Burrall's Corn-Sheller.—Is this the last improvement? For really they come so thick that I am in the condition of the drunken man that thought his bed was going round him, and did not know when to jump on. At last when he thought he was "all right" he jumped and fell into the fire and burnt his fingers. And so it is of these machines. The inventive genius of Yankeeedom is so great, that these machines come and go so fast that I don't know when to jump on, for fear I might burn my fingers.

Popular Errors, No. 2.—Shrinking and Swelling of Meat in the Pot.—And do you suppose that this error, that was so popular in your youth, is now a thing of auld lang syne? I assure you it is as popular now as it was before the commencement of this "age of improvement." And although you and I may deny the moon, there are others who will as religiously adhere to it as witch-ridden mortals do to their preventive horse-shoes.

Treatment of Mules by Doct. Phillips is like all of the Doctor's writings—just like himself—busy, bustling—full of life and vivacity. But I am glad to hear, Doctor, that you have less colic than at Brandon Springs. No doubt that your systematic management of mules is the true cause of your success; but more particularly is it owing to the fact of your giving your own *personal* attention to such "small matters," which saves you the expense and vexation of the enormous annual loss of this useful animal in your own "glorious south."

Gardening, No. 9.—The interest of these arti-

cles of Mr. Talbot is still kept up, and if any of the subscribers of the *Agriculturist* have not yet read them, I advise them to make use of these long winter evenings for that purpose.

The Enemies of Bees.—Mr. Miner in this article promises in his next to teach us the philosophy of keeping the moths out of our hives. Well, I long to see it. I have been much pleased with these articles, and, on account of their general good quality, refrained from pointing out some minor errors. I am entirely sceptical upon the subject of ever preventing the ravages of these dreaded enemies of the bee-breeder. While upon this subject, I have been told that there are no honey-bees in Oregon. Who knows? And who can tell the best method of getting them there?

A Ready Rule for Farmers, made readier.—A "quarter of wheat" is an English measure of eight standard bushels—so if you see wheat quoted at 56 shillings it is 7 shillings a bushel. A shilling is 22½ cents; multiply by 7 and you have \$1.57½ per bushel.

In Kentucky, corn is measured by the barrel, which is five bushels of shelled corn. At New Orleans, a barrel of corn is a flour-barrel full of ears. At Chicago, lime is sold by the barrel, and measured in the smallest sized cask of that name that will pass muster. A barrel of flour is seven quarters of a gross hundred (112 lbs.) which is the reason of its being of the odd measure of 196 lbs. A barrel of tar is 20 gallons, while a barrel of gunpowder is only a small keg holding 25 lbs., and that reminds me of cotton, a *bale* of which is 400 lbs., no matter in what sized bundles it may be sent to market.

Proposed Safety Lamp.—Allow me, my dear Doctor, to publicly thank you for calling the attention of cotton-planters, or rather those of our Yankee friends who do up all such little *chores* for you, to the great advantage of having a wire-gauze safety-lamp.

The only reason why they have not been manufactured in this country is, because there has been no demand for them. But let it once be known that every cotton-planter would buy them, as well as every factor, carrier, packer, or handler of this combustible article, and I will engage that the market will be supplied. It appears to me that they should also be used in every stable, and in the manufactories where the breaking of a glass lantern often endangers hundreds of thousands of dollars' worth of property.

Dr. Phillips speaks of a square shape, with a door strongly fastened, &c., but I suggest a barrel shape, and a heavy bottom screwed in with a coarse screw.

American Wine.—Will that happy day ever come when we shall cease the folly of importing the "drugged pernicious stuff which is too often, we may say almost generally, imported for the use of the sick," and make use of a pure home-made wine? I feel proud to call Mr. Longworth an old friend of mine, just for what he has done to encourage and foster the growth of grapes in our country.

It is delightful to take a ramble around among the hills at Cincinnati, to see how the energy of

this one man has caused the wild and rugged hill sides to bring forth an abundance of this rich fruit. So long as wine must and will be made use of, I would prefer to see that raised from our own soil only used. As an article of medicine it is undoubtedly highly beneficial.

The Potatoe Disease.—Enough said. "All signs fail in a dry time." Chronicle facts, but no more crude and useless speculations and recipes.

Entomology, No. 1.—Lest some of your little readers will look in the dictionary to learn the meaning of that kind of *ology*, allow me to tell them that it is the history of insects, and I have no doubt but Mr. Talbot will make a most interesting series of chapters well worthy the perusal of old and young. The United States seem to be the home of bugs and all manner of creeping things, that are an exceeding great pest to American farmers; and they are rather on the increase, and give evidence every season of the correctness of the theory of the author of Vestiges of Creation, that new kinds are constantly occurring. I beg friend Talbot to condense as much as possible—not in the length of his articles, but in individual descriptions, for I am anxious for him to give a slight description of a very numerous family, without tiring his readers. He can do it.

The Old Lady's Diary.—I have heretofore given my commendation to these excellent and quaintly written articles. "May they live a thousand years." The two recipes in this article are worth more than a year's subscription to this paper, to say nothing of the directions how to get rid of the fleas—to which add some of my diet for dogs, and it will help the matter, for then there will be less fleas. To the old lady's recipe for making "cream cheese," let me add my old Pennsylvania wife's recipe for making *soft cheese*—in Dutch, *Smear Case*.—Take a pan of *lobbered* milk and heat it gently, about blood warm, and the whey and curd will separate; pour it in a strainer and hang it up until well drained; then break up the lump and rub it between the hands quite fine and add half a pint of cream to a soup-plate full, and it is cream cheese in our every day form. Try it; I *guess* you will like it; it is cheap.

Allen's American Agriculture.—If this is not a better *American* book than "Johnson's American Farmer's Encyclopedia," I never shall thank my friend Richard for my copy which I have not yet read. But I think I know the author from his boyhood up, and can vouch for the work in advance, as being one that will interest every reader who undertakes its perusal, and if it don't make him a wise, good, and intelligent American agriculturist, he will not be what this author is.

Premiums Awarded.—Those of the State Society it will be seen are mostly in dollars, or books. I doubt the good policy of all premiums, at these shows, as well as the *manner* in which they are awarded. And I hold it to be entirely bad policy to give them in dollars. Cups and medals, such as those the American Institute give, are in much better taste. They will be preserved long after the dollars are melted away and gone. If all these sums expended in premiums could be funded, how long would it take to accumulate a sufficient sum to

endow an agricultural school that would be an honor in all coming time to our Empire State. I only throw out the hint here by way of text. Who will take up the subject and finish the sermon? It is worthy of consideration.

I now come to the December No. The first article I shall notice, is that upon

Preparing Corn (Maize) for Shipping to Europe.—It strikes me that I am Yankee and old sailor enough to invent a portable steam-engine, that can be taken into the warehouse or on deck of the receiving ship, which shall thoroughly dry the corn in the act of passing it on board and into the hold. By passing the corn through a tube of only a few feet in length, made so that a volume of hot steam surrounds the corn and keeps the tube as hot as steam can make it, would effectually free the corn of moisture, so that it would go into the hold so dry as almost to insure it against mustiness. Who will try it? I charge nothing for the patent.

Letters from the South.—"Richard is himself again" whenever he takes hold of the pen. But at present he is travelling by railroad entirely too fast to give that interest to his letters that a slower rate of locomotion would enable him to do. So general a description as becomes necessary to crowd all the country between Baltimore and Charleston into one letter, lacks that detail which gives zest to a traveller's notes. We want you to stop by the wayside and "talk over the matter" with the old man and woman, girls and boys, besides the negroes. Give us "ten thousand a year" of little details of Southern farming, together with descriptions of lands, farms, ferries, stock, tools, and all the fixings. You must do it. The editor has long promised us something of the kind. [We have some of his letters in hand, which will soon appear, particular enough to suit Reviewer.]

Present Corn-Crop.—"Five hundred millions" is "all in my eye," and plenty of room for more. Your own estimate is nearer the truth, but that of 5 $\frac{3}{4}$ bushels to each soul in the United States, based upon the census of New York State the past summer, is far nearer the truth. I don't believe the average of the Union is greater than that of the State of New York.

Pigstyes.—Very good—much like mine—nothing new. My plan better. Excuse an old sea-captain who is in the habit of speaking positive. My floor falls each way from the centre, two inches in ten feet, so that the wet cannot run into the beds. My troughs run the whole length of the front, and have horizontal doors so hung, that when swung back, the latch falls on the inside edge of the trough, which leaves it for cleaning or filling on the outside of the pen. When the food is in, raise the latch and the hogs push the door forward until the latch falls on the outside of the trough, and holds it there until you want to feed again. The advantage besides the convenience, is, that all the hogs come at once to the feed and share it more equally. And you know, in spite of all education, hogs will be hoggyish, as well as folks, about their eating.

Show of the Berkshire Agricultural Society.—This comes from a ready pen, the traces of which I should like to see oftener in your pages. It also reminds me of home, though I would not from this

have your readers think that I am Berkshire born. This, I believe, is the oldest Society of the kind in the United States, and like some of my friends, it grows better with every year. May the Spanish salutation apply most particularly to it; and may all its doings tend to

"Variegate, adorn,
And make the farmer's home delightful."

The Alpaca, No. 7.—This No. is the most interesting of the series, though there is that in it which looks rather discouraging to those about engaging in the importation of Alpacas into the United States. I am more and more convinced, that if the attempt is made to bring them around Cape Horn, a large portion of them may be expected to die on the passage. But after their arrival, if due attention is paid to what is written in these few short articles, it does seem to me, that they can be naturalized to some of our mountainous districts and prove an immense addition to our national wealth. Every person desirous of information about the Alpaca, should procure this volume of the Agriculturist. I do not know where he could obtain the same amount of information in so cheap and condensed a form.

The Strawberry Question.—By W. R. Prince. As of the potato question, enough said. Mr. Prince spins out his yarn entirely too fine to wear well with a majority of your readers. And those who read his articles must "wade along" as deep as he has done in Mr. Downing's articles." Mr. Prince cannot "set this question at rest for ever." His bump of combativeness is too large; and so is that of "the opposition."

"*Review of the last Review.*"—I asked you, Mr. Editor, uncommonly serious, to tell us "where to feel the pulse of animals," and you answer just as though you knew I owned flocks and herds of cattle which I often skinned, when in fact (not being a Loco editor) I never even skinned a 'coon. In another place you intimate that I may be "one of the Editors of the Tribune." In other words, a 'coon to be skinned. Now the fact is, you don't know whether I am a 'coon or a 'possum, as you have only seen my nose yet. Just wait till my *tale* is full grown, before you pretend to say whether I am one thing or another. As to our difference of opinion about the tariff, we won't say another word. Time will show.

The Corn-Crop.—Not what it is, but what it may be. You say, "that all men will acknowledge it to be a very profitable crop to the Western farmer." I am as well satisfied as you are, that it is more profitable to the Eastern one. I have conversed with a great number of corn growers of the West, who agree that the crop does not there average over forty bushels to the acre. And the price will not average over a shilling a bushel ($12\frac{1}{2}$ cents) upon the farm, and in many places so remote from market that the corn must first be converted into pork, which is driven alive to market. And the stalks are absolutely worse than worthless, for it costs considerable labor to remove, or, as is most usual, cut and burn them out of the way for the next crop. But the Western land is less valuable, and the cultivation is far less than it is in this State and New England. But then the Eastern crop will average at least four times more in value

than a Western one, so that if the number of bushels can be made to average the same, notwithstanding the manuring, rent, and expensive cultivation, the Eastern corn-crop is a more profitable one than the Western. You estimate the value of the crop of stalks, if cut green and well-cured, entirely too low.

Take the United States through, and I fully believe that the corn-crop for any ten years of the past century, will average the most profitable of any cultivated and that the same will be the case for the next century. "The fact is, it is a mighty fine crop, stranger, any how you can fix it."

"*Ladies' Department.*"—My most respectful compliments to my dear friend "E. M. C." of Lynn. How I wish I knew whether she was *disposable* or not, that I might tell her whether I was ditto, and seek her aid to help me out of my "unfortunate situation." As for "the class of ladies forming my acquaintance," they extend from New Orleans to Macinaw, and from Maine to Missouri, among which are many of the prettiest and best on earth; and I love the *whole of them* most truly, "E. M. C." included. And in all the cutting remarks I ever made in ridiculing the disposition of "farmers' daughters," to learn "piano-thumping," and little else, there never was one drop of gall. The truth is, I am notoriously *good-natured*; and I would not hold the anonymous and "thankless office of a critic," only in the hopes of being able thus to do more good than I could, unmasked. And my motto is "peace and good will," and though I intend to write with a free pen, I hope I never shall make a criticism in such a spirit as will drive one correspondent, particularly a female, from this paper. You will observe that I never criticise style—my own is too loose and negligent for that. I hope that every female correspondent will lay aside all fear of "Mr. Reviewer" (he won't bite nor scratch), and though I must continue to wear the "iron mask," take my word for it, that I have no iron features in my face to frighten them, and beg them to continue to let me see their beauties through the productions of their pens.

Influence of the Moon on Vegetation in Columbia.—Now I can get a thousand men to certify that the moon has an equal influence on vegetation in the United States, that this article asserts it does in that part of South America; but you would not believe it; neither do I believe that. Neither do I believe that salt will cure or prevent the potatoe disease.

Gun-Cotton.—If "villanous saltpetre" is to be dispensed with for this new combustible, how our Southern friends will be blowed up. And probably at some future time after the burning of one-half of New York city, it will not be necessary to inquire whether "saltpetre will explode," since we know that cotton will. I hope the whole of this new discovery will not all "blow out."

Agricultural Statistics of New York.—I want somebody that loves figures and has the leisure, to construct you a table to publish, showing the number of bushels per acre of each kind of grain, and the number of bushels of each kind *per caput* if it could be divided equally among all the souls in New York State. [We will endeavor to do this some leisure day.]

REVIEWER.

Ladies' Department.

ECONOMY OF LABOR-SAVING UTENSILS IN A KITCHEN OR ON A FARM.

IN the February No. of your Journal you ask for facts, a request which I sincerely hope your contributors will respond to, as the most beautiful and apparently reasonable theories are of little worth without facts to prove their truth. In this age of novelty, the world appears to run mad after experiment, casting aside everything that is old, as beneath the notice of the modern student of the *ologies* merely because *it is old*; and, those who advocate the practice of old ways, are absurd, because they can give no other reason for their being good than that they have found them so by experience. Although this answer cannot satisfy an intelligent and cultivated mind, it is, as far as it goes, a good one, and should stimulate to investigation, not the extermination of old practices. This will apply to the employments of women as well as men, and should stimulate the farmers' wives to watch their neighbors, namely, comparing "Thrift with Unthrift," and learning the reasons why one is growing richer while the other has either remained stationary, or is gradually growing poorer. The gains of a farm are necessarily slow, and the farmer accumulates as much by saving as making; it therefore becomes an important consideration how each operation is to be performed with the least possible expenditure, not only of money, but time, which is equally valuable, notwithstanding few people educated in the country appear to think so.

A little reflection will show, that to save time is a great gain, while a liberal, though economical expenditure of money is equally so. Labor-saving machines in a farm-kitchen are, therefore, of the utmost importance, as they not only save time, but strength; for instance, if a farmer expends a few dollars in the purchase of a churn so constructed that it will bring butter in five, ten, or twenty minutes, and afterwards work the butter fit for printing, and this only by turning the handle (and there are such churns now in use), he will soon perceive that he has gained more than at first sight he could think possible. If he adds to this, pans for hot water, in which the milk-pans can be placed to prevent the new milk from cooling too rapidly, he will find on churning day, that he has gained one-fifth more butter than by the ordinary method. If such liberal conveniences are allowed the farmer's wife and daughters, as the modern sausage-chopper, that noiseless friend to the farmer's wife, that will silently do in two hours what it would take a man a whole day to accomplish by his single arm, or if a wood-shed in which the kitchen shall open, where a space can be portioned off for barrels and boxes that are to be receptacles for all sorts of things that the women should have in use close to the scene of their labors, and to receive trash that otherwise would be thrown out, littering the yard, and giving an air of unthrift that is always disgusting, and if saved in barrels and carefully collected on a compost heap, will serve as manure for the garden or farm, of the best quality, the farmer himself will find in a short time, that in saving his strength,

time, and health, he has gained at the end of the year, at least, the price of the labor-saving machines, and the following year, there will be a clear profit of money as well as time, that can be spent more profitably in lighter and equally useful occupations. If in the above mentioned wood-house, a row of barrels be placed close to the kitchen door, one for ready-made soap, one for soap-fat into which is previously placed twenty-five pounds of potash, and two barrels of water, one for pig-slop, another for bones and all the worthless scraps and sweepings of the house, and another for chicken-feed, the following results will take place:—The soap being close at hand, can be used when it is wanted, and there will be no excuse for things not being kept perfectly clean. If the barrel of potash and water be kept close at hand, ten times as much soap-fat will be *gathered and saved*, than if the barrel were not there; for it will take no more time to throw it there than into the pig's barrel, or to the dog. The potash will prevent the fat from becoming mouldy, or filled with skippers, which it is apt to do when collected in the usual way. The soap will make itself, if stirred once or twice a week, as shown by several good receipts in the back numbers of this journal. Potash, instead of ley, is most economical, as it is more certain in its results; and the ashes are more valuable on the manure-heap or pasture land than the soap is worth. The pig-slop will be under the mistress's eye, and ingredients neither too good nor too bad will be put in. The bones and scraps, now so highly prized as manure, may all be saved; and last, not least, dirt is not made, and the time and strength that would otherwise be taken in cleaning and scouring is saved for better purposes; and the chickens may be regularly fed without waste of time.

On a farm, as in a bee-hive, all should be workers, and the drones sent off. The women as well as the men, must, and should work; but all will find that the best economy is to save, whether it be in time or money, or strength, though all should be diligently, carefully, and liberally used, if the farmer wishes to thrive. If from a careful management of time, you save one hour a day, either from unnecessary sleep, pleasure, or ignorance, you will gain in five years, seventy-five days and two hours for profitable improvement of mind or means.

OLD LADY.

DAIRY-UTENSILS.—All dairy-utensils should be scalded, rinsed, and dried every time they are used. Glazed pottery is not considered desirable for milk or cream, as the acid contained in them acts upon the glazing (which is generally an oxide of lead), and converts it into an active poison. Vessels made of wood are preferred by many to any others, for this purpose; although they are liable to become tainted with the acidity of the milk, in which case they can only be thoroughly cleansed by boiling; and when this fails, a little saleratus added to the boiling water will effectually neutralize the acid. The vessels must afterwards be immersed for two or three days in water, which should occasionally be changed. Milk vessels may be made of maple, white ash, hickory, or white pine.

Boys' Department.

THE NEWFOUNDLAND DOG.

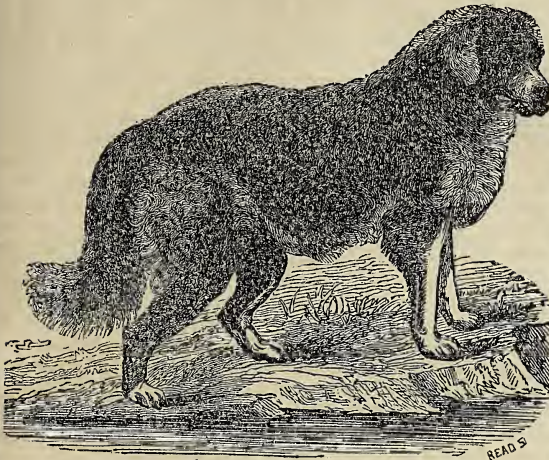


FIG. 32.

In Newfoundland, these dogs are remarkably docile and obedient to their masters; are very serviceable on all fishing plantations; and are yoked in pairs, and used to haul home the winter fuel. They are gentle in disposition, faithful, good-natured, and ever a friend to man, at whose command they will leap into the water from the highest precipice, in the coldest weather. They are remarkably voracious, but, like their Indian masters, can endure hunger for a great length of time. In winter, they are usually fed on the worst salted fish; but when summer approaches, and the occupation of the natives changes to fishing, the poor dogs are turned adrift to shift for themselves.

The true breed of these animals has become scarce and difficult to procure. They grow to a larger size than an English mastiff, being from 25 to 27 inches high at the shoulder, long-bodied, broad-chested, with a shaggy coat, lined with a fine, close fur, a pointed, wolfish muzzle, ears small, and inclined to be semi-erect; color of various shades, from white to black, but the latter, which is most approved, prevails.

The smooth, short-haired dog, so much admired in Europe and in this country, as the Newfoundland dog, though a useful and sagacious animal, and nearly as hardy, and as fond of the water, is evidently the result of a cross with the mastiff. He is a fine showy dog, sometimes 30 inches in height, but is less active, and more apt to display irregularity of temper than the original. The true breed, in a wild state, hunts in packs, and is then ferocious, and in its habits similar to the wolf. Its origin, according to some, it is thought may be traced to a large dog still used for hunting the bear, by the Norwegians, who, it is well known, visited Greenland and Newfoundland before the year 1000.

In a domestic state, the Newfoundland dog is fond of children, and much attached to the members of the house to which he belongs; but frequently che-

ishes great antipathy to a stranger, or to those who wantonly fling at him stones or sticks. He will often suffer a cat to play with, and even lie and sleep on his back or side. He is a great enemy to sheep; which he seldom hesitates to kill, but partakes only of their blood. When very hungry, he will not scruple to steal a fowl, a fish, or a piece of meat; yet he will watch or guard a carcass of beef or mutton belonging to his master, keep off other dogs, and never touch it himself. Otherwise, he will neither attack nor fight a dog of inferior size, but growl at snarling curs and throw them aside; but with dogs of their own strength and size, they fight courageously, and will start immediately on hearing other dogs fight, to restore peace. So sagacious, indeed, are these animals, that they only seem to want the faculty of speech to make themselves fully understood; and they are capable of being trained to most of the purposes for which other dogs are used.

We shall close our account of the Newfoundland dog with the following beautiful epitaph, by Lord Byron, on his favorite Boatswain, on a monument at Newstead Abbey:—

INSCRIPTION.

"NEAR THIS SPOT

ARE DEPOSITED THE REMAINS OF ONE
WHO POSSESSED BEAUTY WITHOUT VANITY,
STRENGTH WITHOUT INSOLENCE,
COURAGE WITHOUT FEROCITY,
AND ALL THE VIRTUES OF MAN WITHOUT HIS VICES.
THIS PRAISE, WHICH WOULD BE UNMEANING FLATTERY
IF INSCRIBED OVER HUMAN ASHES,
IS BUT A JUST TRIBUTE TO THE MEMORY OF
BOATSWAIN, A DOG,
WHO WAS BORN AT NEWFOUNDLAND, MAY, 1803,
AND DIED AT NEWSTEAD ABBEY, NOV. 18, 1808."

When some proud son of man returns to earth,
Unknown to glory, but upheld by birth,
The sculptor's art exhausts the pomp of woe,
And storied urns record who rests below;
When all is done, upon the tomb is seen,
Not what he was, but what he should have been:
But the poor dog, in life the firmest friend,
The first to welcome, foremost to defend,
Whose honest heart is still his master's own,
Who labors, fights, lives, breathes for him alone,
Unhonor'd falls, unnoticed all his worth,
Denied in heaven the soul he held on earth:
While man, vain insect! hopes to be forgiven,
And claims himself a sole exclusive heaven.
Oh man! thou feeble tenant of an hour,
Debased by slavery, or corrupt by power,
Who knows thee well must quit thee with disgust,
Degraded mass of animated dust!
Thy love is lust, thy friendship all a cheat,
Thy smiles hypocrisy, thy words deceit!
By nature vile, ennobled but by name,
Each kindred brute might bid thee blush for shame.
Ye! who perchance behold this simple urn,
Pass on—it honors none you wish to mourn:
To mark a friend's remains these stones arise;
I never knew but one, and here he lies.

Newstead Abbey, 1808.

WHAT boy will make the following experiment?—Measure off in an old grass-field, that is not too wet, a piece of ground 10 rods one way and 16 rods the other. Dig up 160 round patches, two paces across and a rod apart from centre to centre. Plant a broad hill of pumpkins, well supplied with fine old barn-yard manure. Hoe them well through the season, and let the vines run on the grass after the hay is cut.

FOREIGN AGRICULTURAL NEWS.

By the late arrivals we have our foreign journals up to the 21st of March.

MARKETS.—*Ashes* remained as per our last. *Cotton* had fallen 4d per lb.; *Flour* 2s. to 2s. 6d. per bbl.; *Indian Corn*, 3s. to 4s. per 480 lbs. In provisions and other articles, we see no change worth recording.

Money was becoming rather scarce in consequence of the large amount of specie going out of the country for provisions.

Steep for Seed Potatoes.—Mr. Webster, of the Ipswich Philosophical Society, recommended that cuttings of potatoes intended for planting, should be immersed six or eight hours in a solution of hydrochloric (muriatic) acid, consisting of 1 oz. by measure, of acid, to 1 gallon of water. He states that he has been engaged since 1843 in a series of experiments upon the mode of preserving this valuable root, and in the course of his recent investigations, he has discovered that a steep of the above description will prove a remedy to the prevailing disease. The expense of steeping seed for planting an acre is about fourpence (eight cents), and incurs scarcely any additional trouble.

Substitute for Cream in Coffee.—Beat the white of an egg to froth. Put in it a small lump of butter, and gradually turn the coffee to it, so that it may not curdle. It is difficult to distinguish the taste from fresh cream.

To prevent Vermin on Poultry.—Scatter slacked lime on the perches and floor of the hen-house, in every eight or ten days, and it will effectually eradicate the lice as well as promote the health of the fowls.

Value of Night-Soil.—The city of Paris derives a revenue of nearly \$200,000 per annum for the privilege of permitting certain persons to collect and use this article, from the vaults, for manure.

Chalk and Coal-Fires.—The practical utility of chalk as an article of fuel has been lately tested, and with the most satisfactory results. Surrounded with coal, it gives a strong heat, and a clear fire, at half the usual expense; so that to the poor in the chalk districts it must be an invaluable boon.

Liquid Malt and Hops, or Concentrated Extract of malt and hops, is now very extensively used throughout the country, for the purpose of domestic brewing, as the entire process can be performed without employing any of the ordinary brewing utensils, but merely by dissolving the extract in boiling water, and fermenting at a proper temperature, with yeast. Dr Ure and Professor Brande, both celebrated chemists, speak in the highest terms of this preparation of malt and hops. We understand there are three kinds of extracts; one from pale malt for ale, another from brown malt for porter-brewing, and a third from malt alone for making malt and other British wines; it is also recommended for speedily preparing small quantities of sweet wort to drink medicinally.

Economical Mode of Cutting Cauliflowers.—Instead of cutting off the whole head of a cauliflower, leave a part on, of the size of a gooseberry, and all the leaves; second, and even third heads will be formed, and thus they may be eaten for two or three months; when, at present, by cutting the head completely off, the bed of cauliflowers are gone in two or three weeks.

To Cleanse the Teeth and Improve the Breath.—To four ounces of fresh prepared water, add one drachm of Peruvian bark, and wash the teeth with this water in the morning and evening, before breakfast and after supper. It will effectually destroy the tartar on the teeth, and remove the offensive smell arising from those that are decayed.

Soda-Coffee.—The flavor of Coffee may be improved by adding forty to fifty grains of carbonate of soda to each pound of roasted coffee. In addition to improving the flavor, the soda makes the coffee more healthy, as it neutralizes the acid contained in the infusion.

Camelina Sativa—Gold of Pleasure.—W. Taylor, Esq., F.L.S., read a paper, "on a new oil plant, called the gold of pleasure, or *Camelina sativa*, and its importance to agriculturists and manufacturers generally, with remarks on the opportunity now afforded of introducing its cultivation into Ireland." Samples of the seed and oil were exhibited. "I have," observes Mr. Taylor, "paid great attention for the last twenty years to the cultivation of oleiferous plants, the result of which has been the discovery of the Gold of Pleasure, or *Camelina sativa*. The plant is an annual, belonging to the natural order Crucifera, and grows to the height of two or three feet; it is a native of the most northern parts of Siberia. The first supply of seed was received from Professor Fischer, of the Royal Agricultural Society of St. Petersburg; the soils best adapted to its cultivation are those of a light nature, but it does not fail to produce a crop on land of the most inferior description; it has been found on barren sandy soils where no other vegetable would grow. The time for sowing the seed is early in the spring months; the quantity of seed required per acre is ten pounds; it should be drilled in rows about nine inches apart, and may be cultivated after any corn crops, and is a non-exhauster of the ground. Professor Van Ost, an eminent experimental chemist of Belgium, says, 'If farmers did but know the value of this plant, they would all grow it.' A fine oil is produced from the seeds, fit for burning in lamps; it can also be used in the manufacture of woollen goods, soap, &c., and can be sold at a cheap rate. The oil-cake made from this seed, has also been found highly nutritious and useful in fattening oxen and sheep, as it contains a great portion of mucilage, albumen, gluten, and other matter, which, when combined, is found to be very beneficial in developing fat and lean. Mr. Taylor concludes his paper by referring to the present distressing state of Ireland, and the importance of endeavoring to introduce into that country the cultivation of so valuable a plant, and by expressing his willingness to find seed provided he might be allowed to purchase the crop, which he states to be worth eight or ten pounds per acre without the straw."

[*Gold of Pleasure*, so highly vaunted by our trans-Atlantic friend, is often found growing in our cultivated fields, chiefly among flax, with the seeds of which it is sometimes introduced from abroad; but it does not long propagate itself with us spontaneously. It is an annual, from one to two feet high, with small, pale-yellow flowers, possessing but little beauty, which put forth in the month of June. We have heard of but few instances of this plant being cultivated in this country, and therefore cannot recommend it with much hope of success.]

Period of the Gestation of Cows.—From the late Earl Spencer's observation on the period of gestation of seven hundred and sixty-four cows, it appears that it extends to two hundred and eighty-four days, not two hundred and seventy days, as formerly stated.

Comparative Nutritive Powers of Green and Dry Fodder for Cattle.—A communication has been made to the Paris Academy of Sciences, by M. Boussingault, on the comparative nutritive powers of green and dry fodder for cattle. Hitherto the received opinion was, that natural or artificial grasses, on their being converted into hay, lost a portion of their virtues. To determine this point, M. Boussingault fed a heifer alternately, for ten days at a time, upon green or dry food, and weighed the animal after each ten days. He found no difference in the average weight; and therefore comes to the conclusion, that the hay made from any given quantity of natural or artificial grass has the same nutrition as the quantity of green food from which it is made.—*London Athenæum*.

Editor's Table.

THE FRUITS OF AMERICA; by C. M. Hovey, editor of the Magazine of Horticulture, containing richly-colored engravings, accompanied with the wood and foliage, of all the choicest fruits in the United States. From paintings from nature, made expressly for this work, by W. Sharp, chromo-lithed and retouched under his direction. The letter-press to contain a full description of the fruits, the habit of growth of the trees, color of the wood, and form of the leaves. The synonyms under which each variety is known, the origin and period of introduction, and all other particulars of importance to the Pomologist. Boston: C. C. Little & J. Brown, 112 Washington st., and Hovey & Co., 1 Merchants' Row.

The increased attention which, within a few years, has been given to *Pomology*, and the desire to obtain the most correct information in regard to the choicest varieties of *Fruit*, seem to demand a work of the character now announced. The recent publications devoted to the subject, as well as the many valuable articles in the horticultural periodicals of the day, in reference to it,—illustrated as they have been with outline engravings of fruits,—have done much to spread a better knowledge of the many varieties which have been brought to notice,—to facilitate the detection of synonyms,—and to establish a more correct nomenclature.

But experience has shown, that, to arrive at safe and certain conclusions, a reliance cannot be placed upon outline engravings, or descriptions of the fruit alone; and the great errors which have been the cause of so much disappointment to the ardent pomologist, might have, in most instances, been prevented, had cultivators made themselves acquainted with the habit of the trees, the color of the wood, or the form of the leaves. They are, indeed, in some instances, more to be relied upon than single specimens of the fruit alone; and an experienced cultivator can at once detect, at any season of the year, a great portion of the well known varieties of fruit. These characteristics have been considered, with many, as of secondary importance; but since the rapid multiplication of new sorts, we believe they will be found quite essential to aid in the detection of synonyms, and the distinction of varieties. But while engravings, merely have their value, they do not convey to the pomologist that general knowledge of fruits which he often wishes to acquire; such as the color or relative beauty of the different varieties; some of the most choice being of very inferior appearance, while others, less excellent, possess a beauty which often renders them worthy a place in every good collection.

The introduction of new fruits is a subject full of exciting interest to every pomologist; and the earliest information is eagerly sought in regard to the many varieties which are yearly introduced from abroad, or produced at home. To the horticultural works of the day, the cultivator will refer for brief accounts of these; but it will be the object of this work to give correct drawings, and full descriptions of the *select few*, especially those of American origin, as soon as they have been proved to possess qualities which entitle them to general cultivation.

To supply to the *fruit cultivator* this desideratum, will be the object of this work. It will contain richly colored illustrations of fruits, accompanied with the wood and leaves, from paintings made expressly for it, under the direction of the author; and, with the text, an outline engraving of every variety; accompanied, when important, with sketches of the habit of the trees; leaving nothing which can, in any way, assist the amateur cultivator, or nurseryman, in the identification of the numerous varieties, or furnish him with the fullest information in regard to their merits.

The work will appear in royal octavo numbers (uniform in size with Audubon's Birds of America), and will contain four plates each, with eight pages of letter-press, on the finest paper, and in beautiful type; the original paintings executed by that distinguished artist, W. Sharp, chromo-lithed and retouched under his eye. The text will give all the synonyms under which each variety is known, its origin, when to be ascertained, its period of introduction, with an accurate description of the habit of the tree, wood, leaves, flowers, and fruit, the period of ripening, and all other particulars worthy of note. The whole, with a few exceptions in the early numbers, from specimen trees in the extensive collection of the author, where their comparative merits, in the same soil and locality, can be correctly estimated.

The plates will not be numbered or paged, but left with a blank No., so that each class of fruit may be bound up by itself, arranged alphabetically, according to the season of ripening, or in any other way, when the work is completed, or together as issued, at the option of subscribers. Twelve numbers will complete a volume.

The first number of this elegant work has been issued and contains descriptions and colored figures of the following varieties of fruit, viz.:—Beurré d'Arenberg Pear, Glout Morceau Pear, Van Mons Léon le Clerc Pear, and the Baldwin Apple. In our judgment, the design of the work is thus far carried out and its execution is unequalled by any similar publication in the world. A work of this character has long been needed in this country, and should be liberally encouraged.

Terms.—In royal octavo, richly colored at \$1 per number, payable on delivery. A limited number of impressions in imperial quarto, very highly finished, \$2 per number. Subscriptions received by C. M. Saxton, 205 Broadway, N. Y.

CROPS OF THE UNITED STATES.—The Washington Era contains an estimate, taken from the letter of the Secretary of the Treasury, of December 10, 1846, of the quantity of each of the following staples, raised in the United States during the year 1846, with the value of each production, according to the prices they bore in this market on the 1st of December last, viz.:

Cotton—	760,000,000 pounds,	worth	\$73,150,000
Oats—	179,528,800 bushels,	"	69,567,410
Rice—	97,741,500 pounds,	"	3,786,483
Barley—	5,676,600 bushels,	"	3,434,343
Rye—	59,892,500 "	"	23,465,612
Wheat—	117,202,800 "	"	121,011,891
Indian Corn—	450,666,900 bus.	"	314,871,820
			\$609,287,559

PROFITABLE FARMING.—At a late meeting of the Massachusetts Legislative Agricultural Society, E. H. Derby, Esq., of Boston, said that he had given some attention to farming, and was reared in the country amidst merino sheep, which his father imported from Spain. Some years ago, he bought a farm on an island in Lake Winnipissogee, N.H. It was carried on by an agent who had lived on it several years. At first he gave the agent and his wife \$200 a year, then \$250, and afterwards two cents a pound on the butter he made, one cent a pound on the cheese, and one cent on the pork he raised, exclusive of their board. He purchased the farm for \$2,100, and paid out for stocking it \$1,700 more, amounting in all to \$3,800. The sales, he said, had sometimes been as high as \$1,700 or \$1,800 a year. Some years he got little or no profit, while in others he cleared from 15 to 20 per cent., according to the season. On an average he got good percentage, and after nine or ten years he sold the farm for \$2,800, with the view of buying one near Boston, to which he could retire in the summer for the benefit of his children. When his agent first came to the farm he was worth about \$800 or \$900—when he left it he was worth \$9,000 or \$10,000!

New York State Agricultural Society.

Annual Exhibition of the Cattle-Show and Fair for 1847, to be held at Saratoga Springs, Sept. 14, 15 and 16.

The first day to be devoted exclusively to the examination by the Judges of the Animals and Articles exhibited, and no persons will be admitted within the enclosure on that day, but the Officers of the Society, Judges, and Exhibitors.

Any information desired by persons who intend to compete for premiums, will be furnished by the Secretary on application, and he solicits free and full inquiries from all who are desirous of competing at the Show, or of presenting articles for exhibition.

List of Premiums for 1847.

ON FARMS.

For the best cultivated farm of not less than fifty acres, exclusive of wood-land and waste land, regard being had to the quantity and quality of produce, the manner and expense of cultivation, and the actual profits:

First premium,\$50 | Second do.,\$30
Third do.,\$20

EXPERIMENTS AND ESSAYS.

Stall-feeding Cattle.—Best experiment in stall-feeding cattle or sheep. A full and detailed statement will be required. 1st. Weight and age of animal when feeding commences. The weight weekly during the process. 2d. The kind and exact quantity of feed, and its value. 3d. The weight when slaughtered, and the price at which sold, and the account of profit and loss. 4th. Any other particulars that may be of importance to a full and complete account of the whole process,\$20

Draining.—Best experiment in draining. 1st Statement of the situation of the land previous to the commencement of the process—the kind and condition of soil. 2d. The method pursued, with a particular account of the expense. 3d. The result and increased value of the land, if any,\$10

Top Dressing Grass-Land.—Best experiment. 1st. Situation of land and of soil. 2d. The kind, quantity, and value of the manure used. The manner of its application. 3d. The results, giving the increased product, &c. To be answered in 1848.\$20

Root-Crops.—Best experiment on not less than half an acre. 1st. State of land previous to crop, and how manured. 2d. The kind, quantity, and value of manure applied, and in what manner. 3d. The kind of soil and the manner of cultivation, with a detail of the expense. 4th. The result,\$10

Experiments in Fattening Animals on Indian Corn to test its value for that purpose.

ON PIGS.

1. Lot of ten pigs of about 100 lbs. weight each, in lots of 5; to be shut up between the 20th November and 20th December, and weighed separately when put in—the weight to be registered, as well as the sex, breed, and general characteristics of the pigs, and arrange them in the pen by sex, age, and size; to be fed on Indian corn alone.

2. Weigh a quantity of Indian meal, and feed it at regular hours—to be cooked and fed two weeks, and the corn dry two weeks, alternating the feed every two weeks.

3. Have the pigs kept clean.

4. At the end of two weeks, weigh each pig and enter its weight, and make an account, to be entered, of how much all have gained, and upon how much feed.

5. At the end of each succeeding two weeks perform the same process, and continue to do so for at least 12 weeks, and sum up the entire gain, quantity, and value of the feed, the market value of the pork, and where marketed, at the time each of the pigs is slaughtered and disposed of.

A premium of\$25

For experiments in fattening the like number of pigs, under the same regulations as above, or any other kind of grain or vegetables,\$25

The statements required, and everything connected with the experiment in each case, to be verified by the affidavit of the owner, and at least one other person.

FARMS, DWELLINGS, &c.

For the best design, accompanied with plans, elevation, and cost of construction, combining convenience, economy, and good taste,\$20

For the best design, accompanied with plans and cost of construction of a piggery,\$10

For the best design of a farm barn, with plans and cost of construction, and out-buildings,\$15

Competitors for the above premiums must forward their manuscripts to the Secretary previous to the 1st December, 1847, free of postage.

The above premiums for experiments and essays will be open to citizens of other States, as well as residents of this State.

PREMIUMS ON CHEESE-DAIRIES FOR 1847.

The number of cows not less than 20. B. P. JOHNSON, Chairman of Committee.

Special,\$50 | Second premium,\$30
First premium,50 | Third premium,20

ON BUTTER-DAIRIES.

The number of cows not less than 20. Hon. R. DENNISTON, Chairman of Committee.

First premium,\$30 | Second do.,\$20
Third do.,\$10

PREMIUMS ON CATTLE.

CLASS I.—DURHAMS.

Best bull, 3 years old, .....\$20	Best cow, 3 years old, .....\$20
Second best, .....15	Second best, .....15
Third best, .....Am. Herd Book.	Third best, .....Am. Herd Book.
Best 2 years old, .....15	Best heifer, 2 years old, .....15
Second best, .....10	Second best, .....10
Third best, .....Am. Herd Book.	Third best, .....Am. Herd Book.
Best year old bull, .....10	Best year old heifer, .....10
Second best, .....5	Second best, .....5
Third best, .....Am. Herd Book.	Third best, .....Am. Herd Book.
Best bull calf, .....5	Best heifer calf, .....5
2d do., .. Washington's Letters.	2d do., .. Washington's Letters.

CLASS II.—HEREFORDS.

Best bull over 3 years old, .....\$20	Best cow, 3 years old, .....\$20
Second best, .....15	Second best, .....15
Best bull between 1 and 3 years old, .....15	Best heifer between 1 and 3 years old, .....15
Second best, .....10	Second best, .....10
Best bull calf, .....5	Best heifer calf, .....5
Second best, Wash. Letters.	Second best, Wash. Letters.

CLASS III.—DEVONS.

Best bull, 3 years old, .....\$20	Best cow, .....\$20
Second best, .....15	Second best, .....15
Best bull between 1 and 3 years old, .....15	Best heifer between 1 and 3 years old, .....15
Second best, .....10	Second best, .....10
Best bull calf, .....5	Best heifer calf, .....5
Second best, Wash. Letters.	Second best, Wash. Letters.

CLASS IV.—AYRSHIRES.

Best bull over 3 years old, .....\$20	Best cow, .....\$20
Second best, .....15	Second best, .....15
Best bull between 1 and 3 years old, .....15	Best heifer between 1 and 3 years old, .....15
Second best, .....10	Second best, .....10
Best bull calf, .....5	Best heifer calf, .....5
Second best, Wash. Letters.	Second best, Wash. Letters.

CLASS V.—CROSSES, NATIVES, &c.

Best cow over 3 years old, .....\$20	Best yearling heifer, .....\$10
Second best, .....15	Second best, .....5
Third best, .....10	Third best, .....Vol. Trans.
Best 2 year old heifer, .....15	Best heifer calf, .....5
Second best, .....10	2d best heifer calf, .. Wash Lett.
Third best 2 years old heifer, 5	

WORKING OXEN.

Best team of 20 yoke from any one county, .....\$25	Largest No., not less than 10 yoke of oxen from any one town, .....\$20
Second best, .....15	Second largest, .....10
Best yoke of oxen, .....15	Third largest, .....Col. Tour.
Second best, .....10	
Third best yoke, Vol. Trans.	

THREE-YEAR OLD STEERS.

Best yoke, .....\$10	Second best, .....\$8
Third best, .....Vol. Trans.	
Best team of 10 yoke from any one county, .....\$5	
To boys between the ages of 16 and 20, inclusive, who shall exhibit the best broke yoke of 3 year old steers, of their own training, .....Col. Tour.	
Second best, do., Wash. Letters. | Third best, do., Vol. Trans.	

TWO-YEAR OLD STEERS.

Best yoke, .....\$10	Second best, .....\$5
Third best, .....Vol. Trans.	
To boys under 16 years of age, who shall exhibit the best broke yoke of 2 year old steers, of their own training, .....Col. Tour.	
Second best, Wash. Letters. | Third best, Vol. Trans.	

YEARLING STEERS.

Best yoke, .....\$8	Second best, .....\$5
Third best, .....Vol. Trans.	
To boys under 16 years of age, who shall exhibit the best broke yoke of yearling steers of their own training, .....Col. Tour.	
Second best, Wash. Letters. | Third best, Vol. Trans.	

In awarding the premiums on working oxen and steers, the single teams will be subjected to a trial on a loaded cart or wagon under the direction of the committee; and particular reference will be had to the matching, training, and docility of the animals, as well as their general appearance.

FAT CATTLE.

Best pair of fat oxen,..... \$15 | Second best,..... \$10
Third best,..... Colman's Tour.
Best ox steer,..... \$10 | Second best,..... \$5
Third best,..... Vol. Trans.
Best fat cow or heifer,..... \$10 | Second best,..... \$5
Third best,..... Vol. Trans.

A fat ox taking a premium as one of a pair, cannot compete singly for another premium.

FAT SHEEP.

Best fat sheep,..... \$10 | Second best,..... Col. Tour.
Third best,..... Vol. Trans.

Applicants for the premiums on fat cattle and sheep, must furnish statements of the manner of feeding the animals, and the kind, quantity, and cost of the food.

BEST MILCH-COWS.

The cow to be kept on grass only during the experiment, and for 15 days previous to each period of trial,..... \$20
The time of trial, from 10th to 20th of June, and from 1st to 10th of September.

Statement to be furnished containing

1st. The age and breed of cow, and time of calving.
2d. The quantity of milk in weight, and also of butter, during each period of ten days.

3d. The butter made, to be exhibited with the cow, at Saratoga, and the statement to be verified by the affidavit of competitor, and one other person conversant with the facts.

HORSES.**CLASS I.—FOR ALL WORK.**

Best stallion over 4 y'rs old, \$15 | Third best,..... Youatt on Horse.
Second best,..... 10 | Fourth best,..... Vol. Trans.
Best brood mare (with foal at her foot), for all work,..... \$15
Second best,..... \$10 | Third best,..... Youatt.
Fourth best,..... Vol. Transactions.

CLASS II.—DRAUGHT.

Best stallion over 4 y'rs old, \$15 | Third best,..... Youatt.
Second best,..... 10 | Fourth best,..... Vol. Trans.
Best brood mare (with foal at her foot),..... \$15
Second best,..... \$10 | Third best,..... Youatt.
Fourth best,..... Vol. Trans.

CLASS III.—BLOOD.

Best stallion over 4 y'rs old, \$15 | Third best,..... Youatt.
Second best,..... 10 | Fourth best,..... Vol. Trans.
Best brood mare (with foal at her foot),..... \$15
Second best,..... \$10 | Third best,..... Youatt.
Fourth best,..... Vol. Trans.

THREE-YEAR OLD STALLIONS.

Best 3 years old stallion,..... \$10 | Third best,..... Youatt.
Second best,..... 5 | Fourth best,..... Vol. Trans.
Best mare 3 years old,..... 10 | Second best,..... \$5
Third best,..... Youatt.

GELDINGS AND MATCHED HORSES.

Best Gelding,..... Diploma. | Second best,..... Youatt.
Best pair of matched horses,..... \$8 and Diploma.
Second best,..... \$5 | Third best,..... Vol. Trans.

SHEEP.**CLASS I.—LONG-WOOLLED.**

Best buck,..... \$10 | Best 5 ewes,..... \$10
Second best,..... 5 | Second best,..... 5
Third best,..... Am. Shepherd. | Third best,..... Am. Shepherd.
Best pen 5 lambs,..... \$5

CLASS II.—MIDDLE WOOLLED.

Best buck,..... \$10 | Best 5 ewes,..... \$10
Second best,..... 5 | Second best,..... 5
Third best,..... Am. Shepherd. | Third best,..... Am. Shepherd.
Best pen 5 lambs,..... \$5
This class includes the South Down, Norfolk, Dorset, Native, &c.

CLASS III.—MERINOS AND THEIR GRADES.

Best buck,..... \$10 | Best 5 Ewes,..... \$10
Second best,..... 5 | Second best,..... 5
Third best,..... Am. Shepherd. | Third best,..... Am. Shepherd.
Best pen 5 lambs,..... \$5
This class includes all those generally denominated Merinos, whether of pure or mixed blood.

CLASS IV.—SAXONS AND THEIR GRADES.

Best buck,..... \$10 | Best 5 Ewes,..... \$10
Second best,..... 5 | Second best,..... 5
Third best,..... Am. Shepherd. | Third best,..... Am. Shepherd.
Best pen 5 lambs,..... \$5

This class includes all those generally denominated Saxons, whether of pure or mixed blood.

When sheep are presented for premiums unshorn, evidence will be required of the age of the fleece.

SWINE.—LARGE BREED..

Best boar, 2 years old,..... \$10 | Best sow, 2 years old,..... \$10
" " 1 year old,..... 8 | " " 1 year old,..... 8
" " 6 mos. and over, 5 | " " 6 months,..... 5
This includes Cheshire, Berkshire, Russia, McKay, Leicester, and their grades.

SMALL BREED.

Best boar, 2 years old,..... \$10 | Best sow, 2 years old,..... \$10
" " 1 year old,..... 5 | " " 1 year old,..... 8
" " 6 mos. and over, 5 | " " 6 months,..... 5
This class includes Neapolitan, Suffolk, Improved China, Chinese, Mocko, and other grades.
Best lot of pigs not less than 4 in number, under 10 months,..... \$5
Second best,..... Vol. Trans.

In awarding premiums on hogs, reference will be had not merely to their present condition, but to that proportion between bone and meat which promises the greatest value from the least amount of feed.

POULTRY.

For the best lot of Dorking Fowls, not less than 3, 1 cock and 2 hens,..... \$2 and Am. Poulterer's Companion.
Best lot of Black Poland, not less than 2,..... \$2 and Am. P. Comp'n.
Best lot of large fowls, not less than 3,..... 2
Best pair of ducks,..... 2 " "
Best pair of turkeys,..... 2 " "
Best pair of geese,..... 2 " "
Best and greatest variety of barn-yard fowls owned by the exhibitor,..... \$5 and Am. Poulterer's Companion.

PLOWS.

Best plow possessing some new and valuable improvements,..... \$10 and Diploma.
Best subsoil plow,..... 10 "
Best scarifier,..... 10 "
Best roller for general use,..... 5 "
Best clod crusher and roller,..... 5 "

WAGONS, HARROWS, &c.

Best farm wagon,..... \$10 and Dip. | Best Corn Stalk Cut. \$5 and Dip.
Second best,..... Col. Tour. | Second best,..... Trans.
Best Harrow,..... \$3 | Best Thresh'g Ma. \$10 and Dip.
Best Cultivator,..... 3 | Second best,..... Trans.
Best Fanning Mill,..... \$5 and Dip. | Best Drill Harrow,..... \$3 and Dip.
Second best,..... Trans. | Best Straw Cutter,..... \$3 and Dip.
Best Horse Power,..... \$5 and Dip. | Second best,..... Trans.

FARM-IMPLEMENTS, &c.

Best Corn and Cob Crusher,..... Diploma. | Best Saddle,..... Diploma.
by horse power,..... \$5 and Dip. | " Grain Cradle,..... do
Second best,..... Colman's Tour. | " six hand rakes,..... do
Best Clover machine \$5 and Dip. | " six hay forks,..... do
Second best,..... Col. Tour. | " six grass scythes,..... do
Best Flax and Hemp Dresser,..... \$5 and Diploma. | " six cradle do,..... do
Second best,..... Col. Tour. | " six dung forks,..... do
Best Horse Cart for farm,..... \$2 | " six axes,..... do
" Ox Cart,..... \$3 | " hay rigging,..... do
" Horse Rake,..... \$2 and Dip. | " lot grain measures,..... do
" Ox Rake,..... Diploma. | " lot butter tubs and firkins,..... do
" Farm Harness,..... do

For the best and most numerous collection of Agricultural Implements,..... \$10 and Diploma.
Also, for the best and most numerous collection of Agricultural implements, manufactured in the State of New York, by or under the supervision of the exhibitor, \$10 and Dip.

FLOWING MATCH.

First premium,..... \$15 | Third premium,..... \$10
Second do,..... 12 | Fourth do,..... Col. Tour.
Fifth,..... Vol. Transactions.
For boys under eighteen years of age.
First premium,..... \$10 | Second premium,..... \$5
Third do,..... Vol. Trans.

BUTTER.

For the best lot (quality as well as quantity considered), made from 5 cows in 30 successive days,—25 lbs. of the butter to be exhibited,..... \$25	
Second best,..... \$15	Best 50 lbs. made at any time,..... \$15
Third best,..... 10	Second best,..... \$10
Best 25 lbs. made in June,..... 10	Third do Col. Tour.
Second best,..... Col. Tour.	Fourth do Silver Medal.
Third do Vol. Trans.	Fifth do Vol. Trans.

CHEESE.

One year old and over.	
Best 100 lbs,..... \$15	Third best, Silver Medal.
Second best,..... 10	Fourth do Wash. Letters.
Fifth do Vol. Trans.	
Less than one year old.	
Best 100 pounds,..... \$15	Third best, Silver Medal.
Second best,..... 10	Fourth do Wash. Letters.
Fifth best,..... Vol. Trans.	

SUGAR.

Best 25 lbs. maple sugar,.... \$10	Third best,..... Col. Tour.
Second best,..... 5	Fourth do..... Vol Trans.

SILK.

Best specimen manufactur- ed (woven into cloth or ribbons),..... \$15	Best specimen of sewing silk, not less than 1 lb. of domestic growth,..... \$10
Second best,..... 10	Second best,..... 5
Third best,..... Col. Tour.	Third best,..... Col. Tour.
Fourth best,..... Vol. Trans.	Fourth best,..... Vol. Trans.
Best specimen not less than one pound reeled silk,.... \$5	Best one-half bushel co- coons, 1847,..... \$8
Second best,..... Col. Tour.	Second best,..... Col. Tour.
Third best,..... Vol Trans.	Third best,..... Vol. Trans.

DOMESTIC MANUFACTURES.

Best woollen blankets \$5—Se- cond, \$4—Third, \$3.	Best rag carpet, 15 yards \$3— Second, \$2—Third, Trans.
Best ten yards flannel, \$5— Second, \$4—Third, \$3.	Best double carpet coverlet, \$4, Second, \$3—Third, \$2— Fourth, Trans.
Best ten yards of woollen cloth, \$5—Second, \$4—Third, \$3.	Best pair woollen-knit stockings, \$2—Second, Trans.
Best woollen carpet, \$5—Second, \$4—Third, \$3.	Best wove woollen stockings, \$2 —Second, Trans.
Best tow cloth, 15 yards, \$5— Second, Vol. Transactions.	Best cotton wove stockings, \$2 Second, Trans.
Best ten yards linen, \$5—Se- cond, \$4—Third, \$3.	Best pound of linen sewing thread, \$2—Second, Trans.
Best ten yards linen diaper, \$5 —Second, \$4—Third, \$3.	Best linen wove stockings, \$2— Second, Trans.
Best hearth rug, \$5—Second, \$4 —Third, \$3—Fourth, \$2— Fifth, Vol. Trans.	Best linen knit stockings, \$2— Second, Trans.
Best ten yards kersey, \$3—Se- cond, 2—Third, Trans.	Best knit cotton stockings, \$2 —Second, Trans.

Discretionary premiums will be awarded for other articles,
deemed worthy, by the committee.

NEEDLE, SHELL, AND WAX-WORK

Best ornamental needle work,..... \$1 and Diploma.	
“ ottoman cover,..... “ “	
“ table covers,..... “ “	
“ group flowers,..... “ “	
“ variety of worsted work,..... “ “	
“ fancy chair work, with needle,..... “ “	
“ worked cushion and back,..... “ “	
“ worked collar and handkerchief..... “ “	
“ woollen shawl,..... “ “	
“ worked quilts,..... “ “	
“ white quilts,..... “ “	
“ silk patch-work quilt,..... “ “	
“ fringe mittens,..... “ “	
“ portfolio, worked,..... “ “	
“ bonnets, silk,..... “ “	
“ do straw,..... “ “	
“ lace capes,..... “ “	
“ lamp-stand mat,..... “ “	
“ ornamental shell-work,..... \$3 and Diploma.	
“ specimen of wax-flowers,..... 2 “	

Discretionary premiums to be awarded for other articles which
are deemed entitled to commendation.

FLOWERS.

PROFESSIONAL LIST.	
Greatest variety and quan- tity of flowers,..... \$5	AMATEUR LIST.
..... <i>Dahlias.</i>	Greatest variety and quanti- ty of flowers..... Silver Medal.
Greatest variety,..... 5	..... <i>Dahlias.</i>
Best 24 dissimilar blooms,.... 3	Greatest variety,.... Silv. Medal.
	Best 12 dissimilar blooms, Horticulturist.

Roses.	
Greatest variety,..... 5	Greatest variety, Silver Medal.
Best 24 dissimilar blooms,.... 3	Best 12 dissimilar blooms, Horticulturist.
Phloxes.	
Best 10 varieties,..... 3	Best 6 varieties, Horticulturist
Best seedling,..... 2	“ seedling,.... do
Verbenas.	
Greatest variety and num- ber,..... 3	Greatest variety, Horticulturist.
Best 12 varieties,..... 2	Best 12 varieties,.... do
Best seedling,..... 2	“ seedling,.... do
German Astors.	
Best collection,..... 3	Best collection, Horticulturist
Pansies.	
Best and greatest variety,.... 3	st and greatest variety, Horticulturist
Best 24 varieties,..... 2	“ 12 varieties, do

GENERAL LIST.

Open to all Competitors.

Best collection Green-House Plants owned by one person, Silver Medal	
“ Floral design, Silv. Medal	Second best,..... Col. Tour
Best Floral ornament, do	Third do Wash. Letters
Best hand Bouquet “ flat,” Horticulturist.	
Second best,.... Wash. Letters.	Third do Transactions.
Best hand bouquet, “ round,” Horticulturist.	
Second best,.... Wash. Letters.	Third do Transactions

VEGETABLES.

24 best stalks celery,..... \$1	12 best sweet potatoes,.... \$1
6 best heads cauliflower.... 1	Best half peck Lima beans,.... 1
6 best heads broccoli..... 1	“ half peck Windsor do., 1
12 best white table turnips, 1	“ bunch double parsley, 1
12 best carrots,..... 1	Three best squashes,..... 1
12 best table beets,..... 1	Largest pumpkin,..... 1
12 best parsnips,..... 1	12 best ears seed-corn,..... 1
12 best onions,..... 1	Best half peck table potatoes, 1
3 best heads of cabbage,.... 1	Second best,..... 1
12 best tomatoes,..... 1	Best seedling potato,..... 1
2 best purple egg-plants,.... 1	

Discretionary premiums will be awarded on choice garden pro-
ducts not above enumerated.

MISCELLANEOUS.

Best Iron Gate for farm purposes,..... Silver Medal	
“ ornamental cast-iron vase, on pedestal,..... do	
“ sample drain tile..... do	
Best quarter of an acre of osier willow, and the best specimens manufactured from the product,..... \$5	
Best specimen wire hurdle fence, to be accompanied with an account of cost,..... Silver Medal.	

PAINTINGS AND DRAWINGS.

Best specimen,..... \$10 and Diploma	
“ specimen of animal portraits,..... 10 do	
“ drawing of show grounds and buildings,.... do	

STOVES.

<i>Possessing some New and Valuable Improvements.</i>	
Best cooking stove for wood fire,..... Diploma.	
Second best,..... Silver Medal.	
Best cooking stove for coal fire,..... Diploma.	
Second best,..... Silver Medal.	
Best parlor stove,..... Diploma.	Second best, Silver Medal.

For improvements and machinery useful to the farmer, and hav-
ing valuable properties, premiums will be awarded.

PREMIUMS ON FRUIT.

LEWIS F. ALLEN, Buffalo, Chairman of the Committee.

APPLES.

For the greatest and best variety of good table apples, 3 of each variety, named and labelled, grown by exhibitor, Downing's Fruit and Fruit Trees of America. Col'd plates.	
For the second best,..... \$5 and Downing's com'n ed.	Vol. Trans.
Third best,..... Vol. Trans.	
The best 12 varieties of table apples, labelled, \$5 and D's com'n ed.	
Second best, do..... 3 do	
The best 6 winter varieties, do, labelled,.... 3 do	
Second best, do..... 1 and Trans.	

PEARS.

For the greatest number of varieties of good pears, named and labelled,..... Downing's book, col'd plates.	
Second greatest, do..... \$5 and Downing's common edition.	
Third do..... Vol. Trans.	
For the best select collection of first rate autumn pears, named and labelled,..... \$5 and Downing's common edition	
Second best,..... 2 do	

For the largest and best collection of winter pears, named and labelled,.....\$3 and Downing's common edition.
 Second best, do.....Downing's common edition.
 Best collection of newly introduced pears, with a description, &c., as provided for new variety of seedling apples, Downing's book, colored plates.

PEACHES.

Best 12 varieties, labelled,.....\$5 and Downing's common edition
 Second do.....2 do do
 Best 6 varieties, labelled,.....3 do do
 Second do.....1 do do
 Best 12 peaches,.....2 do Downing's do
 Second do.....2 do do
 Best seedling variety, 6 specimens 3 do do
 Second do.....2 do do

PLUMS.

Best collection of plums, 6 spec. each variety, ..\$5 and D's com. ed.
 Second do.....5 do do
 Best 6 varieties of good plums, 6 spec. each, ..\$3 and Thomas' Fruit Culturist.
 Second do.....1 do do
 Best 12 plums, choice variety, ..1 do do
 Second do.....2 and Thomas' Fruit Culturist.
 Best seedling plums, with descriptions, as in apples, ..\$5 and Downing's common edition.
 Second do.....2 do do

NECTARINES AND APRICOTS.

Best and greatest number of good varieties, 6 specimens each, labelled,.....\$3 and Downing's com. edition.
 Second do.....2 and Thomas' Fruit Cult.
 Best 12 specimens of any good variety, ..\$1 and Down. com. ed.
 Second do.....\$1 and Thomas' Fr. Cult.

QUINCES.

Best 12 quinces of any variety,.....\$3 and Down. com. ed.
 Second do.....1 and Thos. Fr. Cul.
 Third do.....do

GRAPES.

Best and most extensive collection of good native grapes, grown in open air,.....\$5 and Down. com. ed.
 Second do.....2 do do
 Best 3 varieties of native or foreign grapes, grown under glass, 3 bundles each to be shown,.....\$5 and Down. com. ed.
 Second do.....2 do do
 Best dish of native grapes,.....Thomas' Fruit Cult.

WATERMELONS.

Best 6 specimens of any variety, ..\$3 and Bridgman's Gard. Ass't.
 Second best,.....1 do do

MUSKMELONS.

Best 6 specimens of any variety,\$3 and Bridgman.
 Second do.....1 do

CRANBERRIES.

Best peck of domestic culture, \$5 | Second do.....\$2
 Six vols. of Downing, common edition, and twelve of Thomas' Fruit Culturist will be awarded by the committee, in their discretion, for choice fruits not enumerated.

WINTER MEETING.

For the best new seedling variety of winter apples, of decidedly superior quality and valuable for exportation; one dozen specimens to be exhibited, together with a history of its origin; a description of the growth, character and habits of the tree, and the growing of the fruit—such fruit to be adjudged by the committee as of the first character for orchard purposes, Down. book, col. plts.
 For the second best, do.....\$5 and do com. ed.
 The above new seedling variety to be sent to B. P. Johnson, Secretary, Agricultural Rooms, Albany, before the 15th January, 1848, for examination.

For the best new fall seedling apple for all purposes, conditions and descriptions as above,.....\$5 and Down. com. ed.
 Second best, do.....2 do do
 These last named to be exhibited at the Annual Fair and Show of the Society in 1848.

DISCRETIONARY PREMIUMS.

Will be awarded for articles of merit exhibited by *Mechanics*, in all the various branches—and it is hoped that a general exhibition will be made.

Plate will be substituted for money premiums in all cases, at the option of competitor.

FIELD-CROPS.—AT WINTER-MEETING.

Best crop of wheat raised upon any farm not less than 2 acres, to be harvested, threshed and measured,.....\$15
 Second best,.....\$10 | Third do.....Vol. Trans.
 Best crop of spring wheat, not less than 2 acres, to be harvested, &c.,.....\$10
 Second best,.....\$8 | Third do.....Vol. Trans.
 Best crop of Indian corn, not less than 2 acres, to be gathered, shelled and weighed, between the 20th December and 5th January,.....\$20
 Second do.....\$15 | Third do.....\$8
 Best crop of barley, not less than 2 acres, to be harvested, &c.,.....\$10
 Second do.....\$8 | Third do.....Trans.
 Best crop of rye, 2 acres,.....\$8
 Second do.....\$5 | Third do.....Vol. Trans.
 Best crop of oats, 2 acres, &c.,.....\$10
 Second do.....\$8 | Third do.....Trans.
 Best crop of potatoes, not less than one acre, to be dug and measured, of a good table quality,.....\$10
 Second do.....\$8 | Third do.....Trans.
 Best crop of potatoes, as to quantity not less than one acre,.....\$10
 Second do.....\$8 | Third do.....Trans.
 Best crop of ruta baga, not less than one acre, to be weighed, and 50 lbs. estimated as a bushel,.....\$10
 Second do.....\$8 | Third do.....Trans.
 Best crop of sugar beets, not less than $\frac{1}{2}$ an acre, weight as above,.....\$8
 Second do.....\$5 | Third do.....Trans.
 Best crop of carrots, $\frac{1}{2}$ an acre,.....\$8
 Second do.....\$5 | Third do.....Trans.
 Best crop mangel wurtzel, $\frac{1}{2}$ an acre,.....\$8
 Second do.....\$5 | Third do.....Trans.
 Best crop of peas, 1 acre,.....\$8
 Second do.....\$5 | Third do.....Trans.
 Best crop of beans, not less than one acre,.....\$8
 Second do.....\$5 | Third do.....Trans.
 Best acre of corn fodder, with a particular account of manner of cultivation and securing the crop,.....\$10
 Best half acre of hops, with a full account of method of preparing, cultivating and preparing crop for market,.....\$10
 Best half acre of flax, with like statements as above,.....5
 Best half acre of tobacco, do do.....5
 Best acre of broom corn, do do.....5
 Best acre of clover seed, do do.....5
 Best acre of timothy seed, do do.....5

EXPERIMENTS.

Whereas, The Agricultural Society of the State of New York has not an experimental farm; and whereas, to some extent, satisfactory experiments can be made by intelligent farmers on their own farms, therefore,

Resolved, That the undermentioned list of premiums be offered to induce public-spirited individuals to lend their valuable aid in extending the boundaries of accurate rural knowledge.

Three premiums will be awarded of \$30, \$20, and \$10, in January, 1848, for the best experiment upon a herd of not less than 8 cows, to determine the relative advantages of selling, or depasturing milch cows.

For the best experiment to be continued through three crops, to ascertain in bushels of grain and weight of stalks or straw the actual value of manure to a farmer.

For the best,.....\$40
 Second best,.....\$30 | Third best,.....\$20

\$20 will be paid at the Annual Meeting of the Society in 1848, to the person who will make the most satisfactory agricultural experiment, accuracy and the importance of the experiment to be taken into consideration. A full detail of the experiment and its results must accompany the application.

For the best managed entire flock of sheep of not less than 100 to be awarded at the annual meeting in 1848.

Best,.....\$30 | Second do.....\$20 | Third do.....\$10

Competition from persons not residents of the State.

Premiums of Plate, Medals and Diplomas, will be awarded on—

The best Bull of any breed 3 years old.

do do do 2 do

On the best Cow, 3 years old.

do Heifer, 2 do

do do 1 do

do yoke of working oxen

do pair fat cattle.

do stallion.

do brood mare.

do pair matched horses.

do buck, long or middle woolled

do do fine wool.

do pen of Merino and Saxony ewes, not less than

5 each.

B. P. JOHNSON, Secretary.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, APRIL 17, 1847.

ASHES, Pots,.....per 100 lbs.	\$4 87	to	\$5 00
Pearls,.....do.	6 44	"	6 50
BALE ROPE,.....lb.	5	"	6
BARK, Quercitron,.....ton.	35 00	"	36 00
BEANS, White,.....bush.	1 25	"	1 75
BEESWAX, Am. Yellow,.....lb.	26	"	30
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	16	"	28
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	9	"	11
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	12
COTTON,.....do.	10	"	14
COTTON BAGGING, Amer. hemp,.....yard.	11	"	14
FEATHERS,.....lb.	25	"	34
FLAX, American,.....do.	7	"	8
FLOUR, Northern and Western,.....bbl.	7 25	"	7 75
Fancy,.....do.	7 75	"	8 00
Southern,.....do.	7 12	"	7 50
Richmond City Mills,.....do.	8 00	"	8 50
Buckwheat,.....do.	4 00	"	4 25
Rye,.....do.	4 87	"	5 00
GRAIN—Wheat, Western,.....bush.	1 65	"	1 75
Southern,.....do.	1 50	"	1 65
Rye,.....do.	90	"	91
Corn, Northern,.....do.	90	"	1 00
Southern,.....do.	85	"	95
Barley,.....do.	70	"	75
Oats, Northern,.....do.	46	"	50
Southern,.....do.	40	"	44
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.	50	"	56
HEMP, Russia, clean,.....ton.	240 00	"	245 00
American, water-rotted,.....do.	105 00	"	185 00
American, dew-rotted,.....do.	75 00	"	125 00
HIDES, Dry Southern,.....lb.	8	"	10
HOPS,.....do.	9	"	10
HORNS,.....do.	100	"	10 00
LEAD, pig,.....do.	4 25	"	4 31
Sheet and bar,.....lb.	4 41	"	5 12
MEAL, Corn,.....bbl.	4 85	"	5 00
Corn,.....hhd.	20 00	"	22 50
MOLASSES, New Orleans,.....gal.	34	"	37
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 00	"	2 25
Pitch,.....do.	88	"	1 06
Rosin,.....do.	50	"	60
Turpentine,.....do.	2 50	"	3 00
Spirits Turpentine, Southern,.....gal.	38	"	43
OIL, Linseed, American,.....do.	77	"	80
Castor,.....do.	75	"	80
Lard,.....do.	85	"	90
OIL CAKE,.....100 lbs.	1 50	"	1 75
PEAS, Field,.....bush.	1 25	"	1 75
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	10 00	"	12 50
Prime,.....do.	8 50	"	9 50
Smoked,.....lb.	7	"	11
Rounds, in pickle,.....do.	5	"	7
Pork, Mess,.....bbl.	12 50	"	15 00
Prime,.....do.	12 00	"	13 25
Lard,.....lb.	9	"	10 1/2
Bacon sides, Smoked,.....do.	6	"	8
In pickle,.....do.	5	"	7
Hams, Smoked,.....do.	8	"	12
Pickled,.....do.	6	"	10
Shoulders, Smoked,.....do.	6	"	8
Pickled,.....do.	5	"	7
RICE,.....100 lbs.	3 25	"	4 88
SALT,.....sack.	1 25	"	1 35
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	7	"	10
Timothy,.....7 bush.	16 00	"	25 00
Flax, clean,.....do.	10 25	"	11 25
rough,.....do.	10 50	"	11 50
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	6 1/2	"	9
SUMAC, American,.....ton.	35 00	"	37 50
TALLOW,.....lb.	8	"	9
TABACCO,.....do.	2	"	7
WHISKY, American,.....gal.	27	"	28
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	25	"	30
Half blood,.....do.	20	"	25
Common do.,.....do.	18	"	20

REMARKS.—The only article that has advanced since our last is Flour, and this is owing to the small quantity in this market. The Erie Canal will soon be open, when we shall have abundant supplies and lower prices.

Money continues abundant with large importations of specie. The Weather is now favorable for getting in spring crops. We continue to have gloomy reports of the wheat crop being more or less winter killed; yet we doubt whether this is much greater than usual.

TRANSACTIONS OF THE

MASSACHUSETTS HORTICULTURAL SOCIETY.

THE Massachusetts Horticultural Society announces to the Public, that its Committee of Publication is preparing to publish the first number of a series of Transactions of this Society.

This publication has been for some years in contemplation, and materials have been collected for this purpose; but it has been hitherto delayed until the funds of the Society should enable it to be produced in a style of excellence which could not fail to render it both permanent, and an honor to the advanced state of the Horticulture of the present day.

It is intended that the work shall be in ROYAL OCTAVO, and the numbers shall appear as frequently as materials accumulate; each shall contain from four to six PLATES, chiefly of Fruits, but occasionally of Flowers, drawn and colored from nature, by the best talent the country can produce, and also the proceedings of the Society, including the reports of the weekly and annual exhibitions, to the date of publication.

The society hopes soon to offer such premiums for able communications on Horticultural subjects, as shall secure to these Transactions papers containing information of great practical value to all interested in this pursuit.

Although the authors of papers will alone be generally responsible for their contents, yet all accounts and descriptions of Fruits will be published under the immediate supervision of the Fruit Committee, and of Flowers under that of the Flower Committee; so that the authenticity of the Society will be attached to the most essential portions of their Transactions.

To establish a standard for all the present varieties of fruit, and to enable the public to judge of the quality of new kinds, as they shall be presented from imported trees, or from varieties originating in this country, will be one of the principal purposes of these Transactions, and will receive the particular attention, not only of the Committees of this Society, but also of the most experienced of its individual members.

The price to the members of the Society, will be about the cost of plates, printing, &c., and will not exceed seventy-five cents per number—to others the charge will be one dollar.

All communications intended for publication, may be addressed to J. E. TESCHEMACHER, Esq., Corresponding Secretary of the Society, Boston.

Orders and subscriptions for these Transactions, may be addressed to W. D. TICKNOR & Co., publishers, corner of Washington and School streets.

Horticultural Hall, School St.,
Boston, March 25, 1847.

COMMITTEE OF PUBLICATION,
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Black Rock, April 1, 1847.

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A RICH VALLEY FARM, containing 123 acres, situated on the north side of Long Island, 3 1/2 miles from Cold Spring Harbor, and 5 miles from railroad depot. Produces in abundance all kinds of Grain and Grass, the buildings and fences are in first rate order, the prospect very fine, and one of the most healthy locations on the Island. The stock, farming utensils, and winter grain will be sold with the Farm if the purchaser wishes. One half of the purchase money can remain on bond and mortgage at 6 per cent. for a number of years, or would be exchanged for good city property. Inquire of

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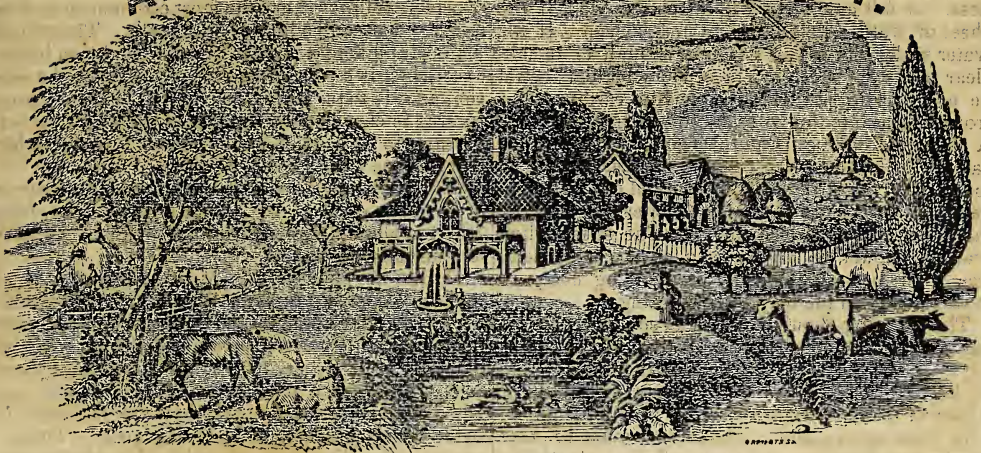
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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON

VOL. VI.

NEW YORK, JUNE, 1847.

NO. VI.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

MILKING STOCK.

SCARCE a week passes that we do not have inquiries for bulls bred from milking families on both sides, for the purpose of improving the dairy qualities of the applicant's stock. The herds of such persons are usually so small that they cannot afford to pay higher than from \$20 to \$40 for bulls form six to eighteen months old. Now such prices will ordinarily remunerate farmers very well for rearing good native grade stock; and we earnestly entreat them to pay strict attention to the dairy points of their bulls and cows, and save those calves only which are well descended from approved milking families on both sides. By rigidly observing this rule for a few generations, their herds will get so well established in their dairy qualities, that they can then depend upon nine calves out of ten proving good milkers. In addition to the point of milking, we hope they will study to add as many other good ones as possible; such as fine bones and a superior quality of flesh, together with a reasonable aptitude to fatten, when dried off for this purpose.

Good milking cows will always command from \$35 to \$50 in this market. It is surely better to rear a good rather than an indifferent beast, as the one costs no more to do so than the other—indeed, the good one as a general rule costs least.

Our advice would be, to have a sufficient number of farmers unite in each neighborhood to purchase improved bulls for the use of their cows. The improvement in their stock by this means would be cheap, certain, and rapid; but we know from experience how difficult it is to get this done. Nevertheless, every good farmer is bound to do his best to bring about so desirable a result. We do not care so much for the name of the breed as we do for the sure possession of those points in the ani-

mal which are calculated to make it the most useful of its kind. Let the farmers pay close attention to this in all the calves they may save for rearing hereafter, and we shall be satisfied. If they do not like the imported Durham, Hereford, and Devon aristocrat races, let them take the native democrat; provided it be a good kind, we will engage not to quarrel with them about names. Give us *the thing*, is all we ask.

Since writing the above, several of our friends have said to us that they would save bull calves from first rate milking cows this summer, if they can be positively engaged, and taken from them at one to three months old. Their prices will be from \$15 to \$30 each, dependent on quality and age. They have hitherto sent their bull calves to the butcher in consequence of no demand for them. The stock is generally a high grade Durham with a mixture of the Dutch milking stock, or Devon, or Ayshire grades.

PREPARATION OF WOOL FOR FOREIGN MARKETS.

At the convention of wool-growers, assembled at Steubenville, Ohio, on the 10th of February last, a committee was appointed to draw up a report on the importance of having their wool properly prepared for market, from which we extract the following:—

First, before washing, remove carefully with the shears all locks containing dirt in a hardened state. Then wet the sheep in every part, and let them stand crowded together for one or two hours. When first put in for wetting, they should be taken out of the water as quickly as may be after the wool is fairly wet, in order to retain a soapy substance, contained in the fleece, which acts upon the dirt and gum in the wool, while the sheep stand before washing. This soapy substance is the first thing to escape as washing is commonly done

The best mode of washing, is to use a fall of three feet or more, turning the sheep in different ways under the fall, till the action of water brings every part of the fleece to almost a snowy whiteness. A fall much less will answer as well, if the sheet of water is eight or ten inches deep. If the water under the fall is not deep enough to remain clear while the sheep are in, a plank bottom should be provided to prevent any sand or earthy matter from getting into the wool, by stirring up the water. A clear rock-bottom is quite as good. When a fall cannot be had, a clear running stream should be found, and the dirt perfectly worked out with the hands from all parts of the fleece, after first soaking the sheep, as mentioned above. The sheep when washed, should be driven to a clear grassy field, free from bare spots of earth, avoiding dusty or muddy roads on the way after washing.

The shearing should be done as soon after washing as the wool is dry,—say in two or three dry days. When confined for shearing, the flock should be kept well littered, and the floors or stables, or whatever place they are sheared upon, should be kept thoroughly clean. The fleeces must be kept whole, and after they are taken off, they should be placed on a smooth clean floor, or table, with the outer side upwards, and carefully examined all over by patting with the hands in order to find every *burr*, which should be taken out without fail. The fleece should then be snugly rolled up, and bound together with a small twine. If farmers would not suffer a burr-bearing plant to live in their sight, it would be vastly better for them. A disregard of these little things, the whole cost of which is trifling, is the great hindrance to the sale of American wools in England and France, and our farmers have generally no idea of the injury they suffer by the neglect of these matters; or by the shameful, dishonest practice of tying up their fleeces with ten, and even twenty feet of small rope, or with strips of bark, two or three inches wide, instead of a small piece of twine. They also often wrap up coarse and unwashed wool within some of their finest fleeces, putting in dirt-balls, dirty sweepings of barn-floors, and rolling up their wool so wet that it often moulds.

SOILING OR STALL-FEEDING COWS.

The advantages attending the system of soiling or stall-feeding in the vicinity of cities and large towns, where land is dear, and can be turned to profitable account in the cultivation of fruit and market vegetables, every year becomes more and more manifest, as will be seen by the following information furnished us by Gouverneur Morris, the proprietor of an extensive farm at Morrisania, near this city.

Mr. Morris is the owner of 145 cows, the milk of which is all sold and consumed in this city. They are fed in winter on hay, Indian meal, oil-cake, shorts or ship-stuffs, and occasionally with green vegetables or roots. They are allowed to range at liberty, in an old orchard, where they drink from a pond whatever they wish, from six o'clock in the morning until one o'clock in the afternoon. The rest of the day they are confined to their stalls, where they are fed.

The operation of soiling usually commences in

the early part of May, and continues until November. The crops employed by Mr. Morris, for this purpose, are wheat, rye, purple-flowered lucerne, barley, clover, oats, and Indian corn. The latter he considers as the best, and the most economical as soon as the season will admit of its growth. The corn is planted at different periods in drills, eighteen inches apart, and is cut in succession throughout the season, as it is required for use. Next to Indian corn, lucerne is considered best, as it is six weeks earlier, at least, in its growth, and a perennial that will last eight or ten years, and will admit of being cut five or six times in a season, with an aggregate growth of seven or eight feet. At the present time, May 7th, it is about a foot in height, although the season is unusually backward.

During the summer, Mr. Morris lets out his cows into his old shady orchard twice a day to be milked, and suffers them to remain four hours at each time, where they are allowed to drink as often as they like. They are fed in their stalls three times a day, with green food, as soon as it is cut, and when clover is much used, they are fed once or twice a day with shorts or Indian meal. The advantage of soiling over pasturing, Mr. Morris estimates at six to one. His cows all appear to be healthy and in good order, and yield an abundance of milk.

TETHERING COWS.

THE great difficulty which most dairy-farmers meet with in keeping cows, probably, during the two months preceding the hay-harvest, is stated in an English journal, to have been overcome by a Mr. Dumbrell, who, by tethering the cows, is enabled to make meadows of comparatively smaller dimensions than is customary, yield food in sufficient abundance for his dairy.

The usual way of tethering is to allow a cow the range of a circle to the extent of the chain; and when it has eaten down its food within its area, it is removed to another spot. Instead of doing this, Mr. Dumbrell tethers his cows with a chain of twelve or fifteen feet; and when it has consumed the grass within its reach, the pin is removed onward a foot or a foot and a half; the cow then eats this quantity, and is again allowed another bite of the same extent. This plan prevents the animal from treading on the food which it consumes while quite fresh, and the chain assists in distributing the droppings. The field is thus fed over evenly, and all is consumed and none trodden upon. Mr. Dumbrell professes to realize good profits from his system, and with a degree of liberality highly creditable to his character, reserves no information from his visitors.

The tethering of cattle, sheep, and horses, has long been practised in this county, to a limited extent, and we know of no reason why it has not been more generally adopted in rich pasture-land, and in grass-fields after the hay is cut. Those who are disposed to make a trial, we would recommend to take a pair of trace chairs, say ten or twelve feet in length each, couple them by means of a double swivel, in order to prevent kinking, or winding up. Let an eye, or ring, be turned on one end of a 1½ inch bar of round iron, with the other end sharpened, and sufficiently long, when driven

quite into the ground, to hold the animal. Into the ring of this pin, the chain may be hooked with a spring similar to that of a chain-halter. By means of such a contrivance the position of the cows may be changed as often as may be necessary until the whole pasture, or field, is consumed, after the manner practised by Mr. Dumbrell. By the time a large pasture is fed over those portions first cropped, will, in general, be sufficiently grown to commence anew.

CHARCOAL BENEFICIAL TO PEACH-TREES.—Mr. Mason Cleveland, of Hartford, Ct., wishes to make public an experiment made upon a peach-tree by an acquaintance of his, the truth of which he says can be depended upon beyond all question—at any rate the experiment is a cheap one, and is worth trying. He had a young peach-tree, the leaves of which were turning yellow, and showing other symptoms of decay. My friend, calling to mind the qualities of charcoal, removed the turf and soil, near the roots, in a circle of about two feet in diameter around the tree, and filled the space to a level with the surrounding soil, with fine pieces and dust of charcoal, which remained in the bottom of a box. The result was surprising. The tree put on fine healthy leaves instead of the yellow ones, and all other signs of sickness departed in a wonderfully short space of time. The tree again commenced growing, and remained perfectly healthy until some years after, when it was destroyed by the weight of its crop of fruit assisted by a strong wind. It is worthy of note that its fruit, both in quality and size, was as much improved as the appearance of the tree itself.

SHEEP-STELLS.

In the management of sheep, in a climate like ours, one of the most important things to be attended to, is a proper shelter from cold storms, and the intense heat of the sun. As close confinement is particularly injurious to these animals, by nature of a roving disposition, and exceedingly fond of liberty, it is of paramount importance to the sheep-farmer not to force them into shelter, whether they wish it or not, but to place within their reach a suitable covert into which they can at all times resort, and this too of their own accord. If a natural shelter cannot be found, such as a dense forest or thicket of evergreen trees or shrubs, a deep dell or ravine, or large, high, insulated rocks, recourse must be had to art. This may be done by forming **STELLS**, a term literally signifying a covert or shelter, and is no more nor less than a high circular enclosure, or screen, formed by planting trees, or by building a high stone-wall, or a mound of earth. Any of these modes will answer the desired end; but the latter, in most places, will be more readily made and more economical, both in the original cost, and in subsequent repairs. The spaces inclosed should be on dry ground, and of a size proportionate to the number of sheep that are kept. As a general rule, each stell should contain from half an acre to an acre of land, and should be increased in number according to the size of the flock. If made of stone, the base of the walls should be four feet thick, the top two feet thick, and the height not less than six feet. If formed of earth,

the base may be six feet in width, the top eighteen inches thick, and six feet in height, with the sides firmly covered with tough edge-sodding. They may also be formed by planting circular clumps or hedges of American holly, arbor-vitæ, hemlock-spruce, or white pine, which, in a few years, will afford an excellent shelter, and will prove highly useful, and ornamental to a pastoral country.

With regard to the form of a stell, perhaps a circular enclosure with an opening towards the south, is as simple and economical as any, as denoted by the adjoining figure. It should be so constructed as to carry off the water



FIG. 33.

caused by rain and snows, which may be done by digging a trench round the outside, with holes through the wall or mound, communicating with the inside. But what would afford more effectual protection, on all occasions, is what may be called a *double stell*, constructed in the form of the letter S, running from east to west, as represented by Fig. 34

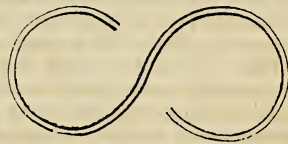


FIG. 34.

It is obvious that in a stell of this description, let the wind blow from whatever quarter it may, one of the recesses, or enclosures, will always be protected from the storm. If two walls, or mounds, were constructed fifteen or twenty feet apart, on the boundaries of the letter, and the spaces between them thickly planted with evergreens, in twenty or thirty years, a security of shelter and shade would be afforded to the cattle and sheep on the prairie farms of the West and elsewhere, that would endure for centuries to come. This is no visionary scheme, but has been advantageously and successfully practised in Scotland and other parts of Europe for more than thirty years.

DIRECTIONS FOR DESTROYING INSECTS.

We are indebted to General Johnson, of Long Island, for the following directions for destroying caterpillars and other noxious insects, infesting trees, by M. Taten, who was rewarded for his discovery by the different Societies of Paris, about one hundred years ago:—

Take of common black or bar-soap, of the best quality 1½ lbs.; flour of sulphur, 1½; mushrooms of any kind, 2 lbs.; and rain or river-water, 15 gallons. Pour one-half of the water into a barrel of convenient size, and stir in the soap until it becomes dissolved; and then add the mushrooms after they have been slightly bruised. Next tie up the sulphur in a coarse open cloth, with a stone, or other weight sufficiently heavy to cause it to sink, and boil it in the other half of the water, for the space of twenty minutes. While boiling, stir the liquid freely and squeeze the bag of sulphur thoroughly, before you take it out. As soon as the water is taken off the fire, pour it into the barrel with the other ingredients, with which it must be

well mixed. Stir the compound once at least every day until it becomes fetid in the highest degree; for experience has shown, that the older and more offensive the liquid, the more quick is its action. The barrel should be closely covered at all times, except when stirring the liquid or applying it to the trees. When it is required to use the mixture, it is only necessary to sprinkle it over the plants or trees, which may be done very effectually by a garden engine or syringe.

HAY-MAKING.

In the making or curing of hay, the first things to be considered are the proper periods for cutting the grass, and the length of time and modes adopted to cause it to dry. On these points, practical men do not all agree; some preferring to cut when in full flower, by means of which, they say, they obtain more and better hay, and the crop is less exhausting to the land; while others consider it best to permit the grass to stand until the seed has just ripened sufficiently to vegetate, which will be more or less scattered for the benefit of the succeeding crop, and the hay, it is thought, is more nutritious, and consequently will afford more flesh and strength.

Lucerne and clover, undoubtedly, afford better and more hay when cut in the flower, and is better adapted for dairy stock than when cut late; but to avoid loss in weight and quality, by heat or fermentation, it is better to salt them down in the mow or stack the same day they are cut, after being exposed a few hours to a hot sun. Two bushels of salt, if uniformly scattered among the hay, are sufficient to cure three tons.

Red-top, Timothy, and the more substantial grasses, generally are not cut before they have arrived at their full growth, at about the time they begin to ripen their seeds. If cut when in a growing state, the unripe juices of the plant are apt to bring on violent heat and fermentation; and thus deprive the crop of much of its substance and nourishment. The truth of this has been confirmed by the observation of Mr. Isaac Reeves, of Delaware, who is of opinion that, by mowing these grasses before they are ripe, the roots bleed and die out, and that this is the reason why a second crop does not spring up for a long time after. "I once," said he, "purchased the fifth part of a crop of Timothy on one of the Islands in the Delaware, with the intention of cutting my lot at the time the other four purchasers did theirs, but I was called from home, and it was not done until the seeds would vegetate. I thought my hay was spoiled; but it was preferred to that of all others for horse-feed; and behold, the next year, my lot of land yielded double the crop of the others, and at the end of three years, it had increased to two and a half tons to the acre, overgrowing all the other grasses, having a uniform crop five feet in height, and preferred before all others at the market. Since that, I have never cut Timothy before the seeds will just vegetate; and I would take a poor field, that shows only a few spikes of Timothy growing in it, and by these simple means, engage, in five years, to cut two and a half tons per acre, of superior hay, provided the land be suitable to the growth of the crop."

With regard to the best mode of making hay, there also prevail various opinions. One class of

farmers never move their hay out of the swath on the day it is cut, but on the second day, shake all that was cut on the day previous, by giving it two turnings. If shaken the day it is cut, they say the hay is reduced by the heat of the sun; but by leaving it in the swath, it "soaks its own sap," and will be reduced very little afterwards. The more of the natural juice or moisture that can safely be left in the hay, the less, they say, will it suffer from that portion of the loss which arises from the drying. Another class contend that *the more quickly the drying is effected, the less extensive will be the change in the starch of the plants*; and consequently the hay will retain more of its substance in a soluble or digestible state. The last assertion would seem to be correct, from observations made in England some time since on the two modes of drying hay. In the dales of Yorkshire, where great attention is given to the frequent turning of the hay, and the consequent increased rapidity of drying it, the cattle can be fattened upon hay alone, which is said to be rarely the case in Scotland, on the Tweed, where the process is more slow, occupying three or four days.

The plan generally adopted in the United States, and the one which long experience seems to justify, is to mow during the early part of a fair day, while the dew is on the grass, say until nine, ten, or eleven o'clock; then spread and turn the hay; towards evening rake it up into cocks of about 100 pounds each; and if the weather be very dry and hot, draw it to the barn or stack the same day. But if the crop is very heavy and green, it is suffered to remain in the cock over night, and about eleven o'clock the next forenoon, it is opened or spread, and four or five hours after is conveyed to the stacks.

SALINE SOLUTION—IN WHICH TO PRESERVE SPECIMENS IN NATURAL HISTORY.—From Hooker's Journal of Natural History.

Common salt - one part.

Alum - - - two parts.

Boiling water - ten parts—filter when cold.

This answers for some subjects better than spirit of wine (alcohol), and there are few situations where it cannot readily be procured in time to preserve a valuable specimen, which would otherwise be lost.

DESTRUCTION OF WEEDS.

ALL rank weeds or coarse vegetables that grow spontaneously to the detriment of other plants, should be timely destroyed before they mature their seeds. Perennials, such as docks, thistles, dandelion, &c., are the most difficult to exterminate, as they generally strike very deep root. The best and surest method of destroying these, is, to bring them to the surface with the plow or spade, or to pluck them out, root and branch, by hand, and burn, or give them to swine. Fields, or gardens, that are much overrun with perennial weeds may be rendered clean in a few years, by thickly cultivating them with horse-radish, lucerne, or other tap-rooted plants, which will retard their growth, and finally root them out.

Annual weeds, which can only be propagated by seeds, such as spurry, chickweed, charlock, stra-

monium, &c., are most readily extirpated by repeatedly hoeing or raking over the surface of the ground, so as to expose their roots to the influence of a hot sun. The main point, in all kinds of weeds, is to prevent them from running to seed.

All nooks and corners about buildings, as well as paths and gravel walks, may be kept perfectly free from weeds by strewing upon the surface of the soil a layer of common salt, or a combination of fifteen parts of sulphur with one part of lime.

SUGAR-PLANTATIONS IN LOUISIANA— SURFACE AND WHEEL-DRAINING.

OWING to the peculiar formation of the land in this region, before adverted to, all the plantations front upon the water. Here it is, that the surface is almost invariably highest, descending with a scarcely perceptible inclination to marshes, swamps or lakes in the rear. Occasionally, ridges of land of equal height with those bordering upon the water, and probably once the banks of the river or adjoining bayou, extend over the rear of the plantation. Additional elevation is required in front, to protect the land from the overflow of high water. This is provided for by embankments of earth or levées, from three or four, to eight feet in height, and sometimes even more. Immediately in the rear of this, is the public road, which being artificially raised, and well ditched on one side at least, affords good travelling at all seasons, except when excessively wet.

The dwelling houses usually border upon the road. That of the proprietor occupies nearly the centre of the front, and is generally a plain, and economical, yet tasteful building, of two stories, with balconies extending on four sides, protected by a projecting roof, which is supported by light pillars. Sometimes there are two or more of nearly similar construction, for the accommodation of additional families, the use of overseers, &c. The tenements of the laborers are within a few rods of these, and arranged with more or less taste and regularity, in double rows, on opposite sides of an area, fifty to eighty feet wide, and ten to forty feet apart. The sugar-house, which includes the engine, boilers, kettles, vats, and store-rooms, is placed some distance in the rear, as are also the stables, sheds, blacksmiths' and joiners' shops. These are generally painted or covered with white-wash; and the elevated chimneys for the boilers, the imposing architecture of the sugar-house, with the group of trees, shrubbery, and gardens, around the main dwelling, give, at a little distance, the pleasing effect of a tasteful hamlet or villa.

The first thing required, throughout this entire delta formation, after clearing off the native growth of wood; is the excavation of numerous large ditches. In front, is the heavy breast-work of earth, four or five feet high, and five to ten wide at the top; then, the road, some two feet above the natural level, flanked by a deep ditch, adjoining which is the fence. *Leading* ditches, as they are termed, about four feet deep, extend at right angles with the front, and parallel with each other at a distance of 150 to 200 feet (according to the nature of the ground, and the ideas of the proprietor), throughout the whole length of the cultivated land, from 2,500 to 6,000 feet. These are intersected by cross-

ditches of the same size, at intervals of 1,000 or 1,500 feet; and between these, smaller temporary ones are excavated and kept open by the plow and hoe. By the side of the larger ditches, roads are thrown up, wherever required for convenient access to every part of the grounds.

The plantations are generally large, comprising 300 to 1,000 acres of tillable land, with an equal or larger quantity of swamp in the rear; which being more or less covered with wood, yields fuel for the engines and kettles, and timber for the general wants of the plantation. Of the 1,240 sugar plantations, now cultivated, or about to be opened in the State, 630 manufacture the sugar by steam-power, and 610 by mules or oxen. The former cost, with their entire fixtures, from \$5,000 to \$50,000, according to their extent, and the refinement of the operations; the latter amount being required only where the vacuum pans and the refining process have been introduced on an extensive scale, for the manufacture of a superior quality of sugar. It will be seen that a very large capital is necessary for organizing a good plantation; and including the land, clearing, embankments, ditches, roads, dwellings, sugar-house, machinery and fixtures, teams, implements, force, seed, supplies, &c., complete, it requires from \$150 to \$300 per acre for the tillable land. Plantations frequently change hands at from \$100,000 to over \$200,000 each; and where well managed, they pay an interest of from 5 to 10, and sometimes a greater per cent. per annum on the capital employed. It is stated on some respectable authority, that while farming lands in other parts of the union pay an average of 3 per cent. on the invested capital, 4 per cent. is realized in Louisiana.

Like cotton, sugar is a production of comparatively recent date in this country. The cane was first cultivated in what is now the second municipality of New Orleans, as early as 1726, but its manufacture into sugar was not begun till after 1760. In 1796, the second sugar-house was erected in this State, in what is now Carrollton, six miles above the city; and so late as 1818, the entire crop of the State amounted to but 25,000 hogsheads. Steam-power was first introduced in 1822, and since that period, this interest has been rapidly extending, till it reached a total product in 1845, of 207,337 hogsheads, of 1,000 lbs. each, and about 9,000,000 gallons molasses. It is probably, at the present moment, the most profitable agricultural pursuit in the United States, and with every prospect of continuing so for a long time to come. The consumption in the United States is now over 40 per cent. greater than our total products, and from our increasing prosperity and wealth, it is augmenting much beyond the ratio of our population. When our own wants are fully supplied, there is nothing to prevent our entering upon a successful competition with the foreign article in European parts, as we have heretofore done in cotton, grain, beef, pork, lard, and the products of the dairy.

The introduction of the ribbon cane into this State from Georgia, in 1817, by giving a hardier variety than the Creole and Otaheite, before used, has enabled the planters to extend its successful cultivation greatly beyond the region originally supposed to be suited to it. And it does not admit of a doubt, that when all the land in the Gulf States,

adapted to the cane, is reclaimed and put into the best condition for the hardier kinds, under the best system of tillage, with the most efficient and economical conversion of the product into sugar, these states alone are capable of producing far beyond the aggregate product of the whole world in 1844, which was below 780,000 tons.

I will occupy the remainder of the space I shall presume to claim for a single number, by briefly noticing one of the improvements in this culture, that, I am confident, must be rapidly adopted hereafter, throughout the entire delta, and which, more than any other, and perhaps than all others united, will inevitably contribute to this result.

From the unvarying level of this sugar region; the excessive rains that frequently abound during the growing season; the great heights of the Mississippi and its minor outlets, during the same period, presenting a head of several feet above the level of the cultivated land; and where the soil is not porous and liable to an excess of water on the surface from this hydrostatic pressure, it is so tenacious in consequence of the predominance of clay, as to hold it to the great injury of vegetation, and from the constant elevation of water in the rear, coming within a few inches of the surface, and being permanently backed up by the waters in the Gulf, are therefore incapable of being changed from each of these conditions separately, and hence, immeasurably more when combined, and bearing upon the same area, it is indicated conclusively, and beyond all cavil or dispute, that *draining, deep and thorough draining*, and the removal of all the surplus water, is the grand agent in rescuing additional sugar lands, and making those already cultivated, vastly more productive than they have hitherto been. This laudable enterprise has already been commenced by a few intelligent planters; yet having been but recently attempted, its results have not yet demonstrated what every principle of vegetable life teaches, nay, compels us to believe they must be, when thoroughly carried out. I shall describe this system as I have seen it on three extensive plantations.

The first is that of Mr. Andrew Hodge, which is bounded for several miles by bayou Barataria. This was formerly one of the numerous outlets of the Mississippi, commencing opposite Lafayette, just above the city, and emptying into Barataria Bay, an arm of the Gulf. Its communication with the river has been cut off by the levee on its right bank, and the bayou now serves as a drain for the Gulf, which, from violent and long-continued winds, sometimes raises the water opposite the plantation to a height of three feet. As but little of this land is higher than four, and much of it not extending two feet above the ordinary level, it is obvious that even a temporary rise must be a serious injury to the growing crop. To prevent this, the entire cultivated land, consisting of some 700 acres, is protected by continuous embankment. Within, and contiguous to this, is a large ditch, communicating with numerous leading and cross-ditches of four to ten feet wide. A canal, twenty-five feet on the surface, and six feet in depth, receives the drainage from all these minor ditches, and conducts the water of the edge of the bayou, where it is discharged. If the water within be higher than on the outside, as

sometimes occurs, it is permitted to flow out by a side cut; but if it be required to sink it lower, as is generally the case, the draining wheel is resorted to. This is twenty-six feet in diameter and five feet wide, and is placed within a small building over the ditch, which is here reduced to a flume of brick-masonry, supported by solid buttresses at either end. After passing the centre of the wheel, the bottom of the outlet curves upward, following at the distance of half an inch the outer edge of the wheel, till it reaches within two feet of the general level outside, when it is discharged, and passes off through self-adjusting iron gates, that open outwards by the pressure of the water, and close from its reaction.

The buckets of the wheel are five feet wide by six deep, and run within half an inch of the walls on either side. They are fastened upon arms, attached to inner rims, which are themselves supported by iron arms, projecting from the centre. They are simply plain surfaces of boards, like those of an undershot wheel, whose direction forms an angle, with a line extending from the outer edge to the centre, of about 10° or 15° . When the flume is full, they strike the water at a very slight angle, the bucket nearly coinciding with the surface, while they throw it out nearly at right angles. The motion of the water, when the discharge has fully commenced, prevents any loss of power, from the seeming disadvantage of the direction at which the buckets enter, and the process of removal goes on at a prodigious rate. Mr. Hodge estimates, that with his engine of forty horse-power, he can throw out, with full ditches, 3,000,000 gallons of water per hour; and that after the heaviest rains, he can deliver all the water which his drains can bring to the wheel, from his enclosure, within a few hours.

The two plantations of Mr. Thomas Morgan, on the left bank of the Mississippi, fourteen miles below the city, embracing some 1,300 acres of cultivated land, are also very thoroughly drained by the use of a wheel, similarly constructed. This is twenty-four feet in diameter, with forty buckets, arranged in the same manner as the one just described. I saw this in operation, three hours after it had been started, to throw out the accumulation from a short but heavy rain, and it had been drawing the water from a canal, five feet deep, and while doing only half work, effectually prevented any accumulation. Mr. M. states, that some rains have produced a fall of four inches, yet that all this body of water which can be led into the main canal, is capable of being expelled by the wheel within ten or twelve hours. A slow drainage continues from the saturated soil, which, of course, requires a longer period for its removal.

The relative position of the two draining machines is different, owing to the difference of location. The first occupies the front upon the bayou, which is on a level with the water in the Gulf; while the latter is placed in the rear, where there is less excavation to produce a descending current, and the swamp, at this point, is on the level with the bayou in the former, and six or eight feet lower than the river in front. These wheels are of the simplest and most efficient construction; and I do not believe that they admit of any improvement in economy and rapidity, in discharging the water for

any similar situation. If the water were required to be lifted much over two or three feet, the reversed action of an overshot wheel of the proper diameter would undoubtedly be best.

The plantation of Colonel Maunsel White, which I also visited, on the right bank of the river, forty miles below New Orleans, has been partially drained by means of a screw; but he informs me that not finding this satisfactory, he has determined on adopting the method before described. Messrs. Benjamin and Packwood, and three or four others, have also commenced the system of wheel-draining. This improvement is in its infancy; but it does not seem presumptuous to predict for it a rapid extension, till it embraces nearly the whole area of the delta. It will reclaim hundreds of thousands of acres not now in use, and render all that is under tillage vastly more productive than it can otherwise be. Its adoption will justify and render available the system of under-draining, which is capable of immeasurably augmenting the crop, and besides being in the highest degree beneficial in preventing the formation of miasma in the atmosphere. But this is a subject reserved for future consideration. Each of the plantations mentioned is under a high state of cultivation, the result of a close supervision on the part of their intelligent proprietors, though neither resides permanently on them; and each has its peculiarities, indicative of a well-directed taste, acting on the features under their control.

After passing through a private canal, reaching five miles directly back from the river, and then through the bayou for twelve more, amid alternate low woodland and swamp prairie, the *voyageur* first meets the cultivated land of Mr. Hodge. Continuing for a mile on the reclaimed front, the bayou, then turns at right angles, and for another mile, borders the plantation. The buildings occupy the lower front, which opens upon bayou Villars, a prairie-bound inlet, that leads to Lakes Oucha (Washaw) and Petit, a distance of but a mile from its junction with Barataria.

Numerous shell-banks are on these lakes and bayous, and immediately in front of the buildings, on either side, are long piles of them partially imbedded in the earth, and covered with magnificent live oaks. There are also several high conical mounds, of alternate layers of shells and earth, evidently the work of a long extinct race, as no record or tradition remains of their origin. One alone yielded over 100,000 barrels of shells without being exhausted. They are the remains of a species of fresh water muscle, still existing throughout these waters; and their accumulation in these immense banks is yet a problem to be solved, opinions still being divided, whether they are the result of artificial or natural, human or elemental action. I ascended one twenty-five feet high, where the roots of an old oak, five or six feet in diameter, still cover almost the entire surface.

I have often admired the variety of shape, the live oak, the king of the forest, assumes. It alternately resembles the form of the northern maple, the ash, the oak, the elm, and even the weeping willow. I have seen one of these standing on a bank, five feet above the water, yet with its pendent limbs trailing in it. But the aspect of the willow is

much more prominent from its long clusters of waving moss, that sometimes load it down with its long and graceful drapery. Mr. Hodge religiously preserves every specimen of this tree on the plantation, and in addition, has a beautiful young forest of selected trees, which are pushing themselves rapidly into consequence and notice.

In this secluded, yet beautiful retreat, nature seems to reign almost supreme. For miles on the bayou and lakes, not a tree has been cut, nor a stroke been made, that indicates the presence of man. The alligator suns himself in undisturbed quiet; the waters abound in fish that prey only on one another; and the air is filled with the blue crane, the mocking-bird, the red-winged and crow blackbird, the little ampray or papa, and numerous others of the feathered tribes, whose notes make the welkin ring again with their jocund melody. It is through these solitary, yet measureless bayous, lakes, and morasses, that one may wander, and see nature just as she was a thousand years ago, undisciplined by the hand of civilization, unvexed by the hand of toil.

Colonel White came into possession of his plantation before a ruthless onslaught upon the native forest had entirely swept it away, and with a taste, as commendable as it is rare, he has preserved a large grove of native trees, which sweep from the river's bank around and far behind his domicile. Mr. Morgan found his denuded, but by a judicious selection of forest-trees (among which I find a native elm conspicuous), he is rapidly recovering the ornamental grounds with their appropriate adornments.

Thus far I have seen on the low lands but one species of fruit-tree, in an apparently natural and healthy condition. The apple grows up long, mossy, and spindling, and with the peach and plum, yields a thin foliage, straggling specimens of which not unfrequently hang on to the branches throughout the year. Occasionally, though seldom, do either bear satisfactorily. The fig grows everywhere luxuriantly, and with a full, rich, and dark foliage, that indicates the greatest health and vigor.

The orange has been a most successful bearer throughout most of the delta; but within a few years, has in many instances been almost annihilated to exterminate a parasitic insect that fastens upon the trunk, the limbs, and foliage. Every known remedy has been hitherto tried in vain, and as a last resource, the limbs have been lopped off, and in many cases, even the trunk cut down to the ground, to give a fresh and more vigorous growth, that might possibly resist attack. Colonel White informed me that the products of his scattering trees had yielded over \$1,000 in a single year, yet this disease had compelled him to cut them down to naked trunks. There is evidently a wide field open for study and experiments in the fruit-trees of lower Louisiana.

In future numbers, I shall continue the subject of cane cultivation, though leisurely, and perhaps with considerable interruption; but I shall not relinquish it till the best modern practice, and hints for its further improvements, are fully spread out before the American planter.

R. L. ALLEN.

New Orleans, April 27th, 1847.

SOUTHDOWN SHEEP.

AMONG the many valuable and beautiful varieties of stock, imported of late years into this country, we would call the attention of the public to the Southdown sheep especially, not only as an example of great intrinsic excellence, but as an instance of the admirable results of selection and subsequent management, when accompanied by a thorough knowledge of the principles of *breeding*.



FIG. 35.

The animal from which the present race of Improved Southdowns originated, was small, hardy, and unsymmetrical; *always* possessing, however, great weight in the hind quarter, a point that in the whole course of its improved breeding has been jealously preserved; while much pains have been taken to increase the size of the fore quarter, which nevertheless yet weighs three or four pounds less, a difference not objected to by breeders of sheep, who think that the weight should be found in the most valuable parts. And here we quite agree with them; we never could believe the fore quarter, however large and loaded with fat, so palatable or profitable as the hind quarter; which seems the general opinion, since the former is never worth so much in market as the latter. The Southdown owes the weight of its hind quarter to the full, round form of the leg, which thus furnishes a large ham peculiarly adapted to smoking or drying, like venison, to which it is scarcely inferior; while the sweet, juicy meat, short-grained and well marbled, gives the mutton a just claim to the high reputation it has obtained in market. Unlike many varieties it has much lean and little *outside* fat. As is generally the case with animals of this character, they give a great deal of profitable meat for their appearance, and the butcher is rarely disappointed in their *proof*, while the proportion of offal is small.

The Southdown, after a series of judicious breeding, attained a degree of symmetry and compactness, which the foregoing portrait will serve to il-

lustrate, being a fair specimen of the improved breed.

The points of Fig. 35 may be briefly enumerated as follows: A fine, clean head; eye bright, with the orbit not too prominent; short neck; straight back; ribs springing high and bowing; wide loin; tail set on well up; long from hips to rump; very deep in the flank; full twist; round, projecting brisket; forelegs standing perpendicularly under the body; sound hoofs and well woolled on the belly and thighs.

Such were the sheep, as bred by the late John Elman, of Glynd, Sussex, one of the first and most successful improvers of the Southdowns; and such are the sheep now kept by his son, the present J. Elman, on the same estate. From this source have sprung most of the improved breed, which were distributed over England by annual drafts from Mr. E.'s flock; and though many are now breeders and exhibitors of this variety, and have attained as such, great eminence, yet we believe they will readily acknowledge their indebtedness to the Glynd flock, for their earlier materials.

A striking and valuable characteristic of the Southdown breed, is their great power of endurance; a quality which their native hills are well calculated to test. These consist of large tracts of unclosed land, in Sussex and the adjoining counties, whose altitude and hilly surface, together with the thin chalky soil, covered with scanty but sweet herb-

age, render it only fit as pasturage for sheep of the hardiest habits. Here large flocks of the Southdowns, attended by shepherds and their dogs, are fed; often being driven several miles to and from their pasture, whose barrenness obliging them to feed over a large extent of ground, requires an amount of travel few sheep would endure; while they not only *live*, but thrive on pasturage so poor, that they little fear the encroachment of any other of the improved breeds. They have been tried successfully on the high, bleak mountains of Wales, where their industry and vigorous constitutions have enabled them to equal in endurance, at the same time that they far surpassed in symmetry, the goat-like breed of that country.

But this power of enduring poor fare, does not unfit the Southdowns for better quarters; unlike most of the world they bear prosperity well. We find them in the fertile county of Cambridge, in the fold of Mr. Webb, with crosses of the blood of the Glynd flock, attaining the weight of forty pounds per quarter and above, and bearing away the prizes of the Royal Agricultural Society from all England. Thus we see them on the rich meadows of the lowlands, producing more wool, acquiring even earlier maturity, and reaching a larger size than upon the Downs, where they seldom exceed thirty pounds per quarter; a proof that individual size greatly depends upon the quantity and quality of food, or in other words upon the *strength* of the land on which the animal is fed. The strong constitution of this

breed really enabling it to flourish in every situation where sheep are found, is one of their inherent properties, and so highly appreciated by breeders, that Sir John Sinclair quotes the Southdown as the *standard of perfection* in this respect. As an additional proof we may mention that they bear *folding* (a very severe test of constitution) better than any other breed, and can be kept in large flocks without loss or inconvenience; a circumstance having no little weight with sheep-masters, who know the disadvantages of a deficiency in this respect. Another result of this property of great importance in their native country, is the *close stocking* they will bear; it being now generally conceded, we believe, in England, that they will "*live on the land*" in the proportion of three to two over the other improved breeds. These hardy animals seem to have set disease at defiance; the rot, scab, and red water, being unknown among them, while their sound, deer-like hoofs are perfect models of what a sheep's should be. They are very prolific, one-third or one-fourth of a flock usually producing twins, and bringing them up well, the ewes being excellent nurses and fond mothers, so that as many lambs as there are ewes, is a common yield where numbers are grown.

The wool of this breed, like that of all mutton sheep, has but small pretensions to fineness, the fibre being about the 600th of an inch in diameter; a quality well adapted to our farmers' home consumption, and that which our country machinery can work to advantage—finer being more difficult to manufacture, and coarser not felting sufficiently. The fleece usually averages four pounds per head from the ewes, and as high as eight or nine from the bucks; being very close and compact, and not *parting* on the back, it forms a complete protection against snow and rain, no trifling advantage through a northern winter.

But in speaking thus highly of the Southdowns, we do not mean to include all the races of *black-faced* sheep found in England, there being no less than six distinct varieties, none of which, with the exception of the Norfolk and Southdowns, have been objects of much attention or improvement. The Norfolks, however, even in their own country hold no rivalry with the Southdowns. Some of these inferior varieties have, we believe, been imported into this country, but we are confident a comparison with the improved breed would soon reduce their pretensions, and rank them among the host of common and worthless sheep with which England yet abounds—possessing little excellence in either form or wool.

We would now call the attention of the public to the remarkable adaptation of the Southdowns to the various parts of our own country. On the bleak hill side, in the fertile valley, in the home-stead meadow, or the vast prairie, they are alike flourishing and content; and whether facing the rough blasts of a northern winter, or luxuriating in the warm sunshine of a southern season, they will find but few superiors among the woolly tribe. Quickly acclimated, they endure the long cold winters of the northern and eastern states with no other food than hay; coming into winter quarters in fine order, and retaining their condition through six months of dry feeding. In the south and west

the shorter and warmer season being more congenial, would allow of their living as on their native downs, on but little hay and a few roots.

Where mutton is an object with the farmer, it is desirable to have a sheep possessing the property of fattening rapidly with small consumption of food, and we believe the Southdown is eminently calculated to fill this niche. Their early maturity and quiet habits peculiarly fit them for graziers in the vicinity of large cities or towns, where their superior quality of mutton would always command the highest price; while their capability of travelling renders them great favorites with the drover; and enables the more distant farmer to raise them with advantage. For the farmer keeping but a small flock for family use, we are convinced that no breed is more suitable or profitable, both for wool and mutton, than this, or some of its crosses. With the *Leicesters* they produce a large animal of good form, great aptitude to fatten, and very early maturity—living on less and poorer food than the long-woolled sheep. Crossed with the Cotswolds, the produce possesses greater aptitude to fatten, combined with power of endurance. As an instance of this cross, we need only refer to the two wethers bred and fed by Mr. McIntyre, of Albany, that attained the great weight of 210 pounds, and this without extraordinary keeping. The cross with the common mongrels of our country, when good individuals have been selected, has been very valuable; everything being gained in form and constitution and nothing lost in wool, while the maturity and thriftiness of the native has been much improved.

Some of the best importations into this country from the flocks of Messrs. Elman, Coke, Webb, and Grantham, are in the possession of Messrs. Rotch, McIntyre, Cope, Waite, and Bagg; Messrs. Sherwood and Allen, and several other gentlemen, also have excellent specimens of this breed, having purchased their stock from Mr. Rotch. We are not disappointed to find that the Southdowns maintain here the high reputation they enjoy at home, satisfied, as we are, that they only require to be better known to be universally admired for their fine forms, and highly appreciated by the farmers for their superior mutton qualities.

MANAGEMENT OF HONEY BEES.—NO. 9.

Swarming.—The cause of swarming, in all cases, is an excess of population, the bees not having room for all to work to advantage. When bees are placed in very large hives, or when they are quartered in an open room, as is sometimes done, they never swarm. Swarming may also be prevented by affording additional room, either at the bottom, top, or side of the hive during the swarming season. As a matter of profit, in the increase of stocks, bees should never be placed in rooms, or in hives larger than twelve inches square. If we should have two swarms, the one in a hive *two* feet square, and the other in a hive *one* foot square; or in hives of the same solid contents, though differently shaped, the result of the increase of each, at the end of five years, would be, with good management, about as follows: *viz.*, the swarm in the larger hive would about half fill it with comb the first year; the second year it would be completed, but no new

swarm. The following spring would find the hive full of comb, but only half full of bees; and it would require the third year to replenish, and so it would continue *ad infinitum* yearly replenishing its lost population, and at the end of fifty years you would have no more bees than when you commenced!

The other hive would be plumply filled the first year; the second year a couple of prime swarms might be calculated on; the third year, we will say, only one swarm each (a very low estimate), we now have six swarms; the fourth year we will double to a certainty, and the fifth year the same, making twenty-four swarms, while the larger hive "stands alone in its glory," if not entirely annihilated by the ravages of the moth, the more probable result of the two. In each hive there is but one queen, which is the source of all the increase. The eggs are laid by her. A hive one foot square is as large as she can use. In such a hive all the workers that she desires to carry out her ends can be fully accommodated. Ten thousand bees to a hive in the spring are all-sufficient—more would be but an incumbrance; hence, we find, that though there be one hundred thousand in a large hive during the breeding season, the following spring finds them departed to that "bourne whence they never return."

The principal laying of the queen depends much upon the mildness of the spring and much upon the strength of the stock. I am fully satisfied that many of my stocks are in progress of breeding through the entire winter, to some extent. Indeed that such is the case with any populous stock we have abundant proof, in cases where the stock has been destroyed in the heart of winter, as an experiment to test the fact. Where such is the case, there is not that diminution in the number of the bees from fall to spring that ordinarily occurs. In weak stocks, the internal heat necessary for the maturing of the young brood cannot be produced, and we find that such stocks are compelled to await the approach of warm weather. Here we have the basis of prosperity in a nut-shell. If we cannot so manage that our hives will be populous to their greatest capacity we may as well give up the idea of perfect success at once.

If the hive be well filled, the queen is fully aware that a large portion of her increase, which the laws of nature compel her to give, must leave her domicile; and she also, through instinct, learns that each swarm must be provided with a queen-regent, like herself, in order to perpetuate their species. These queens, or rather princesses, are produced from the common egg from which issue the workers, or from a common worker-grub, in its primary stages of advancement by a particular treatment. This fact is shown by the mode of artificial swarming, now practised to some extent; the philosophy of which is this: If a piece of comb, containing the young brood of different stages of maturity, be attached to the top of an empty hive, and a quantity of bees be placed therein, having no queen, they will select a certain aged grub from the comb afforded them, and by a particular process of nursing and feeding (the nature of which never was nor ever will be known by us) they will produce a perfect queen, and proceed in their avocation as usual. Without this piece of comb no power or ingenuity of man

could cause the bees to perform a single day's labor.

As each swarm requires a *princess* from the old stock from two to six are generally produced every spring, and such as are not wanted are immediately put to death, as it is entirely out of the question for more than one to exist in the same hive, unless it be during the short period awaiting the issue of a swarm. A very remarkable circumstance occurs in the development of these young princesses; they are so timed in their maturity as to issue from their cells respectively just as they are wanted to take their departure with the swarms. That is, giving them a short period after quitting their cells to gain strength for the journey, say forty-eight hours. It must here be borne in mind, that where there is sufficient room, as in very large hives, the queen sees no necessity of swarming, and consequently takes no measures to furnish the young princesses.

Indeed it often occurs that she neglects to do this in cases where the greatest necessity exists for them, and as a swarm never leaves in such a case we find many of our hives loaded with bees, clustering around and below during the entire warm season, which we watch with anxiety from day to day, or hour to hour, wondering what can keep them spell-bound to their tenement! As the needle invariably points to the north pole, and no human power can change this law of nature, so is the queen-bee the load-stone that draws every bee to her. The broiling rays of a summer-sun, famine, nay, the prospect of a certain death cannot move them. But when a young queen sallies forth on the wing of uncertain destiny, she is the magnet that draws after her a goodly portion of the animated mass. Whither she goes they follow, and as she would gather her subjects around her, preparatory to the journey, she selects a slender branch of some small tree and alights. The bees at once commence clustering around her, perhaps some few minutes before the last have left the hive. Whether the bees ever select a habitation before leaving the hive is a matter of doubt with me. They sometimes do take at once, after issuing, to some suitable tenement, such as a decayed hive, or some hole in a building, or perhaps they may cluster for a few minutes, and then rapidly take their flight to the forest. All of this may be and probably is concerted after swarming. In confirmation of this, I once had a swarm issue from the hive in which the day previous it had been lodged, and after revolving a long time in the air, settled down upon the very hive from which they had just issued. Now here is an instance where a particular location is fixed upon while on the wing. What caused this singular operation I cannot say, unless it was that they took some dislike to the hive and afterwards concluded to try it again. In order to remove such a difficulty, I took another hive, and as soon as they had fully clustered set it upon a table, and also set the hive with the bees upon its side near it; then with a dusting brush swept them gently down upon the table, and they quietly entered the new hive, and did well.

The number of bees produced from April to July, in a strong stock, may be estimated at from 20,000 to 30,000. The first swarms I have generally found to be the largest, though some consider that in general the second are. The third are usually small

The period between first and second swarms is nine days; between second and third six or seven, and if yet another, the next day or two. The time, however, is dependent upon the weather. If we have hot, sultry weather, the bees mature more rapidly, and are increased in numbers, and consequently throw off swarms faster, but we need never look for a second swarm sooner than a week, and if the weather be cold and wet, it may be delayed fourteen days.

There is a catastrophe attending a rainy spell of weather during the swarming season, that many persons may not be aware of, which is this: The queen, in laying the foundation of new princesses, calculates upon their maturity at certain periods; when, if the weather should permit, swarms would be ready to issue, according to her principles of the science; but as she cannot foretell the weather, she is often caught with three or four of these royal scions on hand, and the weather does not permit the issue of a swarm for several days, as fine weather for such an operation alone will do.

As these princesses ripen in maturity, a spirit of jealousy begins to be engendered, that sets the whole hive in an uproar. Here is a sad dilemma! The old queen expects to go off with the first swarm, in person, as soon as the weather becomes fine; in the meantime there are several young expectants of assuming the reins of government, who begin to show a spirit of revolt as they grow in strength and age. If this state of things last for a week, through rainy weather, their jealousy becomes so furious that a general fight of extermination takes place, and the one that finds herself alive last assumes the reins of that stock; and if all the princesses have matured there will be no more swarming that season.

This is another reason why bees do not swarm, when we think they do not know what is for their own interest; but I assure the reader, that when they do not send off swarms, it is for a good and sufficient cause, though we may not be able to comprehend it.

T. B. MINER.

Ravenswood, L. I., May, 1847.

BENEFIT OF ASHES TO CORN.

As cultivators are requested to send in facts, the result of careful experiments, and the corn-crop has become the "glory of our land" I will state the circumstances of an application of wood-ashes, that was applied to that grain many years ago and noted down at the time. The variety of corn cultivated was the hard eight-rowed white having a small cob.

The objects aimed at were to determine whether wood-ashes acted beneficially to this crop, and to ascertain the proper quantity and their comparative efficacy whether unleached or leached. The soil was a deep and strong loam, which had given a fair crop of corn for six successive seasons, varying little save in being affected by favorable or adverse summers, with no other manuring than the usual quantity put into the hills at planting-time.

Previously to plowing, barn-yard manure, at the rate of about six hundred bushels to the acre, was spread over the ground. Just before the second hoeing, June 13th, 1827, I selected four rows of

equal length, size and vigor, that had no missing hills. To parcel No. 1, no application was made. To parcel No. 2, one gill of leached ashes was sprinkled about each hill. To parcel No. 3, one gill of unleached ashes was applied. And to parcel No. 4, two gills of leached ashes were given. All the four rows grew luxuriantly, as did all in the field, and during the various stages of growth, I could discover no difference in the size of the plants, the number of ears set on a stalk, nor in the length of the husks. In fact, they appeared so very much alike, in all these respects, that I much doubted whether I should find any inequality in the measures at harvest time.

Yet the result, at harvesting the crop, on careful measuring, was, that the ashes had increased the quantity in each of the rows where it was applied, over that of the one to which none was put, at least fourteen per cent. Rather the greatest yield was obtained from the row to which one gill of leached ashes was given.

In answer to the question, in a note under a communication from me, contained in Vol. 5th page 151 of the American Agriculturist, I will now reply (pardon the delay) that the soil was "rather a strong loam" deep and incumbent on a white clay.

ARCH'D JAYNE.

Setauket, March 12th, 1847.

TO WOOL-GROWERS.

NUMEROUS liberal minded persons interested in the wool business having placed funds at our disposal for the purpose hereinafter mentioned, we shall on the 1st day of October next award and pay the following premiums, viz:—Ten Gold Medals worth ten dollars each for the ten entire clips of most valuable fleeces for clothing purposes. Ten Gold Medals worth ten dollars each for the ten entire clips of most valuable fleeces for combing or worsted purposes. Ten premiums of ten dollars each for the ten best conditioned entire clips of Saxony wool. Ten premiums of same amount for the ten best conditioned entire clips Saxony grade wool. Ten premiums of same amount for the ten best conditioned entire clips of Merino wool. Ten premiums of same amount for the ten best conditioned entire clips for combing fleeces. All wool-growers throughout the United States are invited to compete for them.

We would again invite the attention of wool-growers to our remarks on the subject of preparing wool for market as published in the reports of wool-growers' meeting at Steubenville, Ohio, on the 10th of February, 1847, also in the Agricultural and other papers of the country.

All bales of wool designed for our care should have the name of the owner or grower plainly written or printed on them in full, together with our address as follows:—"Perkins & Brown, Springfield, Mass."

All lots of wool intended to compete for the premiums should reach us by the 1st of August next. Growers may receive premiums if their wool be put up and marked separately, even though the wool may come through the merchant or other wool-dealer. Any further contributions from wool-growers, or other public spirited persons, will be expended in

preparing the medals—publishing a report and in additional premiums.

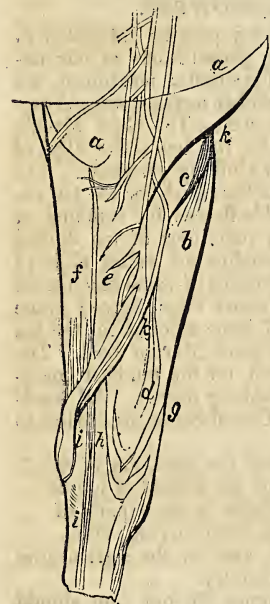
All editors of periodicals friendly to agricultural pursuits throughout the United States are respectfully requested to publish the above.

PERKINS & BROWN.

Springfield, Mass., April, 1847.

THE HORSE.—No 5.

THE ARM.—The arm consists of two bones, and extends from the elbow down to the knee. The longest of the two is called the bone of the arm, or spoke bone; is nearly straight; bears at its upper end the lower shoulder bone, and rests at its lower end on the bones of the knee. It is in front. The hinder and shorter bone is called the elbow bone. It has a long and powerful projection behind, called the elbow, which extends from the lower bone of the shoulder down to the middle of the front bone, and there ends. These two bones are united by cartilage and ligament, which are changed gradually in horses of five to eight years of age, to bone, and then the arm consists of only one bone. The short bone acts as a brace. The weight of the body and the shock of motion falling on the arm, are divided between the two bones. The cartilage and ligament in the young horse between them, assist to resist the combined effect of weight and jar; in the old horse, the united bones do the same. These



MUSCLES OF THE INSIDE OF THE ARM—FIG. 36.

are made one by the inflammation and irritation arising to the cartilages and ligaments, from the great work imposed on them. These two bones are surrounded by very tendinous muscles of great volume and force, which are immense where they attach to the elbow, and the cartilages and ligaments correspond in power. The arm of the horse should be large, as his strength in front lies mainly here. It should be so formed as to allow the attachment of large muscles, and of their action to the best advantage. A large and properly formed elbow is very necessary for this purpose. The longer the elbow, the better will the muscles act, as they will exert their power in lines nearer to the perpendicular than with a short elbow.

The Muscles of the Arm.—We have already described the muscles, *r, r, s* (fig. 25). These were common to both arm and shoulder, as indeed are all the muscles of the arm in some degree, but those were peculiarly so.

The chief muscle of the arm is the *extensor* or extending muscle employed to raise and project in front the bones of the leg below the knee, viz: the

cannon or shank, and splent bones. It is seen at *x*, fig. 25. It is attached at its upper end, to the head of the lower bone of the shoulder at the point, and to the ligament that covers the joint at the point of the shoulder; the upper part of this muscle is mainly flesh with small tendons; at its middle part, it becomes tendon almost wholly, and a little further down entirely so, and proceeds as a tendon, round at first, but flat at the knee, where it attaches itself. It is continued on and attached to the upper end of the shank bone.

w, fig. 25, shows the *extensor of the foot* or muscle extending the foot. It is the second in importance in the arm. It starts from the shoulder joint, being attached to the fore part of the head of the lower bone of the arm. It is flesh where it starts, runs downward, and before it reaches the knee becomes tendinous wholly, and proceeds on to the fetlock and pastern, where it attaches itself by ligament covering and adhering to the pastern joint. It not only raises and extends the foot, but also the knee.

u and *z*, fig. 25, are tendons of two more extending muscles. These serve the same purpose as the other extensors. *z* runs obliquely across the muscle *x*, confining it in its place.

The muscles employed in bending the leg backwards, are numerous and powerful. One is seen at *b*, on the leg, in fig. 25, and at *b* in fig. 36, and is called the middle bending, or *flexor* muscle of the shank and splent bones. The *external flexor* is seen at *v*, fig. 25. The internal flexor is seen at *e*, fig. 36. There are two muscles among others whose object is to raise the foot. They are called the *perforating extensor* and the *perforated extensor* of the foot; the *perforating*, so called, because it runs through the other, and the *perforated* because it is run through by the perforating. They lie at the back of the arm. The perforated one, joined to the perforating, forms a large fleshy mass. As it goes downward, it becomes tendinous, and at the knee is fastened down by ligaments; below the knee it widens, and partly encloses the perforating flexor, and they run down together to the fetlock, where the tendon of perforated muscle forms a ring around the perforating tendon; below the fetlock, the perforated tendon divides and attaches itself on to the pastern bones. Both the perforating and perforated are enclosed in a sheath of dense cellular substance which is attached by fibres, and they are supported and bound round by many ligaments.

The *perforating flexor* muscle has a common origin with the perforated. It is muscular further down the arm, and lies before the perforated. It is confined strongly at the knee by ligaments. At the knee it is round, and is partly enclosed in the perforated; it proceeds to the fetlock, where it is enclosed wholly by it. When the perforated tendon divides and goes to the pastern bones, the perforating comes out of its enclosure, and goes into the back part of the foot.

One of the most powerful of the muscles which bend the arm is the flexor of the arm. It arises from the lower end of the ridge of the shoulder blade in the form of a large round tendon, and runs in a groove between the two elevations in the upper part of the front of the lower bone of the shoulder. The groove is lined with smooth cartilage, and an oily fluid fills it, for the tendon to

move in, free of friction. Leaving the groove and passing the head of the lower bone of the shoulder, the tendon becomes a round fleshy muscle filled with tendinous fibres. It makes the bulk of the front of the arm mainly. It is attached to the head and neck of the bone of the arm, and to the covering ligament of the elbow point. The whole of the leg below the arm is bent, carried forward and upward almost wholly by this muscle. It is a muscle of great importance and power.

a, in fig. 34, represents the muscles crossing the breast. It arises from the first four bones of the breast, attaches itself to the under part of the lower shoulder bone, and crossing to the inner part of the arm, runs some way down the arm. It binds the arm to the side of the chest; keeps the leg straight in front when the horse moves. The weight of the body is thus received on the legs in an easy and safe direction, and most advantageous for the full play of all the muscles concerned in forward motion. This muscle is employed more in sustaining weight and keeping the leg in a straight direction, than in motion. When it becomes weary, the horse spreads out his fore legs and falters. Of course its duty is important and extensive, and it must be large to be equal to its task.

The flesh parts of the muscles contain the power by which motion is procured. They contract and draw the tendons, and motion is the result. Below the knee and the hock there are no muscles, but only tendons. Of course all power of motion is above the knee and hock.

This completes all we have to say of the muscles of the fore hand. In our next number we shall take up those of the quarters and hind legs.

Muscles of the back.—These are in chief the *surface muscles* of the ribs; the *transverse* or *crosswise muscles* of the ribs; the *long* (or longest) *muscles* of the back; and the *spinal muscles* of the back.

The surface and transverse muscles of the ribs extend along the whole of the back and loins, and are connected with the pack-wax or ligament of the neck. The pack-wax is inserted into them. They are attached to the last spinal bone of the neck; and extend from thence and from the pack-wax along the back to the part of the ribs nearest the spine or back. At that point they attach to the ribs. Their office is to raise the ribs, and assist thus the expansion of the chest, and give full play to the lungs. These muscles are also put in use when the head is to be raised or lowered. By contraction they draw the tendon of the neck or pack-wax backward, and elevate the head; by relaxing, they extend the pack-wax forward and lower the head. These muscles will be found to be large in every horse that carries a fine bold head and neck; and full also, in horses of superior breathing powers, as they are instrumental in that free and perfect action of the lungs so necessary to good wind.

The *long muscles* of the back constitute a large mass, and by far the largest mass of muscle at this point. They attach to the upright and horizontal spurs (or projections) of the spinal bones, and are mingled with the muscles of the shoulder in front and with the muscles of the haunch behind. Into the *long muscles* of the back, the pack-wax is inserted by its branching fibres at its lower end; the

fibres of all the other ligaments along the upper side of the back are embedded in, and the fibres of those ligaments are diffused among the mass of these long muscles. By these muscles, the various motions of the spine, back, and loins, are made; and they are the only means by which those parts can have their power of motion put in action. Inserted into the muscles of the haunches, when the haunches are kept on the ground, these muscles are employed to raise the fore-quarters in rearing; inserted into the muscles of the fore-hand, when the fore-legs are fixed, the hind-quarters by them are raised in kicking.

The spinal muscles of the back extend from the upright spurs or projections of the bones of the loins to the back bones, at the withers. These muscles are thick and strong about the withers, and are extensively attached to them. When the withers are high, they are the larger in mass, and more strongly attached, and their power is proportionately increased. From the withers they proceed upwards to the three lowest bones of the neck, to which they attach. They are mainly concerned in elevating the fore-quarters in motion, and they produce, when large and powerful, high and safe action, and contribute to speed. High withers are valuable as affording large space for the muscles of the back to attach to, and of course the muscles will be in proportion; and hence, to the good judge, they are an evidence of a capacity for good action, and generally, for speed. High and lofty action will always depend on high withers.

DIVISION OF AGRICULTURAL LABOR

THE perfection to which the various arts have arrived in their several departments may be distinctly traced to the system of division of labor. So it is with science—with commerce; and so it must be with agriculture in America, if we ever succeed with its advancement in any great degree of perfection. England, taken altogether, is probably the best agricultural country in the world; carries its divisions of rural labor to almost as nice extremes as its mechanical; and for this reason the farmers of England excel us infinitely in the perfect manner in which the work is accomplished, and the ease with which they manage their otherwise complicated farming operations. From this practice of a division of labor is it that we find so few among English, Scotch, and Irish laborers, who understand all kinds of farm work. They are either plowmen, ditchers, reapers, stackers, herdsmen, and shepherds, or teamsters, or two or more of these several branches of labor combined, rather than the "Jack of all trades, and good at none," which is not altogether universally, but too much the case with our American laborers who are brought up—not educated—to do a little of everything partially, and nothing really well. I speak this not in disparagement, but as the inevitable consequence of our system of all work on our farms—a dabbling at everything in a small way, and at nothing in the main—a system well enough for the small farmer, who tills only a few acres; but totally unworthy the attention of the extensive farmer who occupies his hundreds or his thousands of acres, and prosecutes agriculture as a business on the scale that the manufacturer and the merchant prosecute theirs,

and arrives at ultimate wealth and success in his pursuits.

The common opinion entertained by the more bustling part of our population in the North, is, that farming, or the business of agriculture, is an uncouth, unpleasant, drudging, and unprofitable business—fit only for the rude, and the vulgar, whose tastes are far beneath a high standard of intelligence, at least, if not absolutely beneath that of an ordinary one. That perpetual physical toil and inadequate returns are its only recompense, and therefore it is fit only for those whose brains are deficient, or whose circumstances in life have prevented them from rising in the more favored pursuits, or professions of life. Whether this opinion be well or ill-founded—and I conclude it is partly both according to the individual cases on which it is based—I shall not take the trouble to argue; but if taken as a whole, the aggregate of wealth, prosperity, and happiness, according to the capital, toil, vexation, and disappointment, connected with commercial and professional pursuits, is greater than that of the intelligent farmer, I shall be happily mistaken. But the question now is, are not we as farmers, in America, very far behind our brethren who are engaged in other branches of industry, in the systematic arrangement of our business, and in the profitable division of our labors? I think so; and propose to devote a few moments to an examination of the subject.

Our southern brethren—and I speak in all kindness—from the very fact that they are compelled to work their estates with a rude and an ignorant “force,” have adopted the plan of turning their attention to one principal crop. To that their entire labor is directed, and of course to its most economical production and profitable result. True, some even among themselves contend that this system is wrong, and that each planter ought to raise, with his cotton, his rice, or his sugar, the corn, the pork, and the other commodities for the consumption of his establishment, and thus save his money at home while diverting a part of his labor and force to those objects. This is as it should be; yet at the same time it will be best to keep the single object in view, and devote their main attention to that which they well understand, and in which they are sure to excel. It should be much the same with us; for after years of experience I am entirely satisfied that when anything further than a mere family support is designed, or the cultivation or improvement of any considerable number of acres is pursued, a less complicated system is demanded, and a fewer number of objects should be comprised in our productions than is generally the case north of the planting States.

Is not the multifarious system of farming too often pursued in the northern and middle states the true secret of the want of general success with our larger farmers, and the really bad husbandry of many of them? And is not the toilsome life of the common farmer, already referred to, the result of this diversity of production, and the occupancy of his time to a too laborious extent, and the consequent confusion and want of system in his business? I think so.

What would be the probable success of a man ever so well educated, who should combine the three

professions of law, divinity, and physic, in his pursuits? Would he excel in either, or would his life be anything but a round of toil, anxiety, and mortification? I fancy not. Or what would be the prosperity of one who should mingle the pursuits of an extensive commerce with ordinary merchandise and mechanical pursuits on a large scale, and embrace the whole in his occupations? It is needless to say that not one individual in a thousand would succeed by this complication of business, and that what was attempted to be done would be badly executed, and no improvement expected in any department whatever.

So much for the principle. Not that I would apply the productions of the farm to a single staple alone; but the capacity, taking into consideration the position, climate, and all the circumstances connected, of the farm having been ascertained, and its best production or productions settled, one or two of those products should be the main objects which should occupy the attention of the farmer; and he will under such system almost certainly succeed. It may be asserted, to be sure, that some portion of our country, in its individual farms, is equally fitted for the production of the grains and of grass. That wheat and corn, and the coarse grains and roots and grass and fruits flourish equally well; and when so, good economy requires that the farmer should produce all these in proportion, or at all events equal to the wants of his family and the demands of his laborers and of the market. Now this may be so, and it may be not. To know exactly, the farmer should consult his own inclinations, and the situation and inclinations of his family, for these have very much to do with the matter. In fact, the adage “know thyself,” and in addition “know thy family and estate,” can never become more applicable than to the intelligent husbandman who is planning out for future years his system of agriculture. Those possessing such soils as are above alluded to, are fortunate in having a choice of cultivation; but it in no measure detracts from the weight of the proposition, that one object should chiefly engross the cultivator’s attention.

And here let me pause and remark, that it is not intended now to advocate the system of slavish toil adopted by too many of our successful farmers, who commence life in penury, and by a system of excessive labor amass a competence only to toil on, making themselves and their families still greater slaves in proportion as their means increase; and to whom the idea of a rational leisure and its grateful enjoyments is an utter stranger. Not at all. The system to be recommended is that of an intelligent, progressive agriculture—a system giving sufficient leisure to the mind, healthful labor to the body, and abundant occupation to the thoughts, together with cheerfulness of disposition,—the perfection of enjoyment, if such degree of enjoyment for any time there be, in this humdrum world of ours. And this system, we contend, is quite practicable in our country in all situations where the soil is worth cultivation, let it be adapted to whatever branch of husbandry it may.

There are few soils known that are not better fitted for the successful cultivation of some crops than of others, and of the production of some staples than of others. And such as can be most easily

and cheaply produced when markets are convenient, and the cost of exchange is not too great, should in all cases be the main product of the farm. For instance, he who has a fine grazing farm, natural to the growth of the best grasses, will better turn his entire attention to wool-growing, stock-raising, or the dairy, than to only a part of all these, or a part only of either of them, and the balance of his time and labors to the growth of grains; and the possessor of the warm and arable soils where the grains are easily grown, and not so friendly to grass, will better consult his interest to enforce his whole attention to the grains and their most perfect and abundant production, with sufficient grazing to turn his straw into manures, than by multiplying his staples, give a divided and imperfect attention to all. The confusion, too, resulting from the perpetual change of labor of one kind to that of another; the imperfect, heedless, and slothful manner in which that labor is too generally performed in America by our "Jack-at-all-trade" practice, is a great drawback to the perfect and economical execution of farm work, and is an evil from which there is no present prospect of exemption. The mingling, also, of so many kinds of labor following one upon the heels of another, and as a consequence many of them altogether out of season, is attended with partial loss and perpetual anxiety and care, with unremitting and slavish toil to the farmer himself, or he is otherwise cheated out of half the time of his laborers and the loss of half his crops, with a perpetual sinking of his capital in the non-production of his soil, the neglect and decay of his implements and farm structures.

On the other hand, if but one or two objects comprise his attention, although at times and in certain seasons extraordinary labors may press upon him, the husbandman is prepared to meet them promptly and efficiently; and these once passed, they bring a season of comparative repose, which gives him leisure for reflection; an opportunity to investigate all the subjects connected with his pursuits, and the means for improvement to its utmost extent, and the particular staples to which his attention is directed. Added to all these, he has time in the proper seasons for such recreation with his family and friends as may promote their mutual enjoyment and welfare.

These are some of the advantages of a division of our agricultural labors; the adoption of which has given to the best agricultural countries of Europe their astonishing ascendancy over us in the extent and perfection of their products. From this subdivision of Agricultural labor has grown their system of fairs for the sale and exchange of all kinds of farm products, and farm stock, where each one, at the most profitable moment, may dispose of his surplus of whatever kind, and apply its proceeds to other and more seasonable objects of his attention. Such may hardly be anticipated at present in our own country; but the time may eventually come when we shall approximate to the better systems of commercial agriculture adopted abroad. At all events, the advantages of *singleizing*, if I may coin a word, our agricultural products is manifest; and no doubt can be entertained that the most successful husbandman, to any extent in his occupation, is he, who well understanding the capa-

bilities of his estate, adopts that mode of husbandry to which it is best fitted, in one principal item, and prosecutes that with the ability of which his advantages render him capable.

When the larger farmers of our northern and middle States shall have extensively adopted systems of this kind, then will they excel each in his own particular department; a feeling of rivalry and mutual interest will be excited; individual reputations will be reared and sustained, each conspicuous and honorable in its kind, and the entire agricultural community will experience the benefit of that of which, not now seeing, they cannot imagine the importance; a community of husbandmen, all of the highest intelligence in their own particular pursuit, and each producing the best and the most of which its kind upon the soil, and under the climate where produced, is capable. A spectacle gratifying to behold, and abundantly remunerating in its results.

Such is the condition of the best agriculture of Europe. Such, too, is the condition of the best American agriculture. Many instances may be named where the people of particular and very considerable sections of our States are engaged as wheat-growers, corn and pork-producers, stock-traders, graziers, dairy-men, wool-growers, orchardists, &c., &c., in almost entire communities. Where such is the case, do these branches of agriculture excel each in its kind; and in such communities is the character of its husbandry, according to its class, of the highest order; all, the results of a division of labor. It gives to each one confidence in his pursuit, respectability to the mass, and is full of individual benefit in the freedom from distracting care and corroding anxiety; the bane of all real enjoyment and satisfaction. Let us of the agricultural community imitate our brethren of other professions. Let us, as our merchants, our mechanics, and our professional men have done, divide the realm of husbandry, and conquer success.

LEWIS F. ALLEN.

Black Rock, April, 1847.

THE PINE-TURNIP.

In receiving a few turnips from my father-in-law, in New Jersey, this spring, I noticed among them a variety I had never seen before, a sample of which I herewith send you. It differs, you will perceive, from the common turnip in having eyes, or tubers, in all parts of it, as in the potatoe. Another peculiarity is, that it will keep for any length of time, without the least alteration or any appearance of decay. The specimen before you, it will be seen, is as sound and hard as it was the day it was unearthed in the fall; and besides, it appears as green as if just taken from a hot-house.

This turnip is hardy, and like the alpaca, will thrive on poor soil, as well as on that which is rich. As to its feeding qualities, my father informs me that it affords much more nourishment in proportion to its bulk than the ordinary turnip. As there is no particular name for this variety within my knowledge, and as it greatly resembles a pineapple in shape and size, I would suggest that it be called by the name of the "Pine Turnip."

JAMES LANE.

New York, April 9th, 1847.

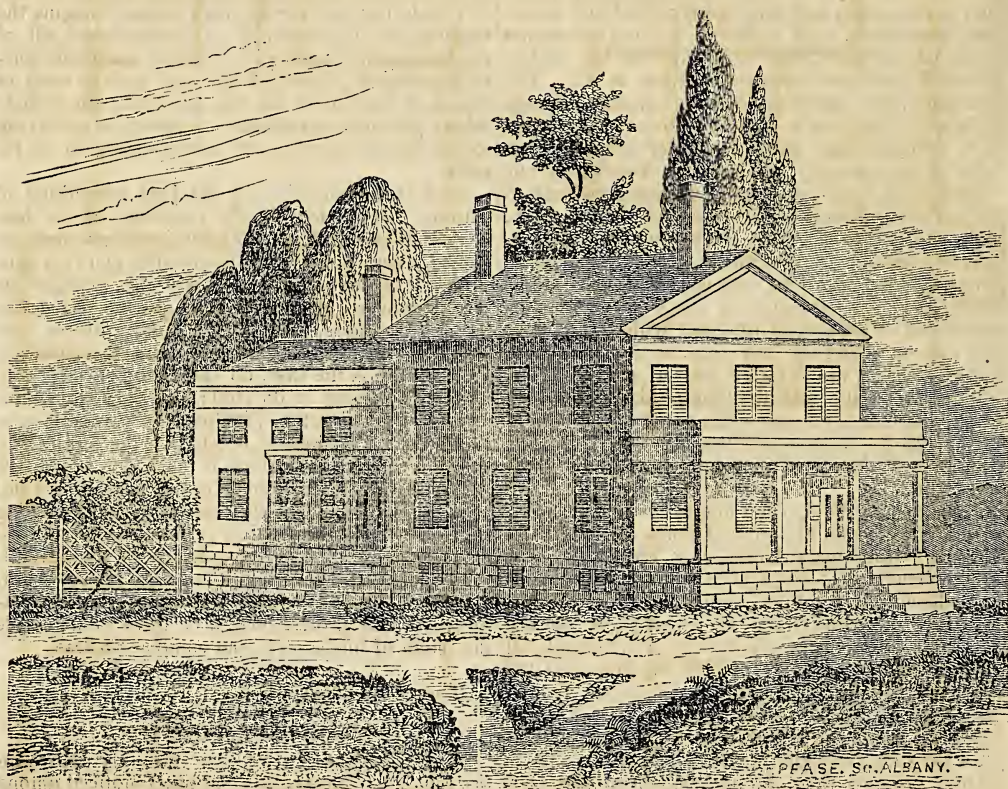
DESIGN FOR A FARM-HOUSE.

To design a farm-house in which beauty and utility shall combine is not a difficult task; but to design one that shall meet the wants, suit the taste, and come within the means of the *mass* of farmers, is quite another affair. There are many families who would consider a house complete if it afforded sufficient room for working and lodging, with the addition of a parlor. Others would think it very deficient if it did not contain, besides these, a library, dining-room, nursery, and bathing-room.

In the first place, the size of the family, and the

kind and quantity of labor to be performed, should be taken into consideration. If there are a number of small children, it is very important that there should be a nursery upon the first floor, connected with a bathing-room, and as near the dining room and kitchen as possible, that the mother may be spared all *unnecessary* steps in attending to her duties in these several departments. A small library is another desideratum; and a bathing-room should be considered indispensable.

If but a small dairy is kept, time and labor may be saved by having suitable rooms for milk



PERSPECTIVE VIEW OF A FARM-HOUSE.—FIG. 37

and cheese, as it is very unpleasant passing to and from a dairy-house in bad weather. The soil and situation must determine the place for a milk-room; few cellars are sufficiently dry and airy for that purpose.

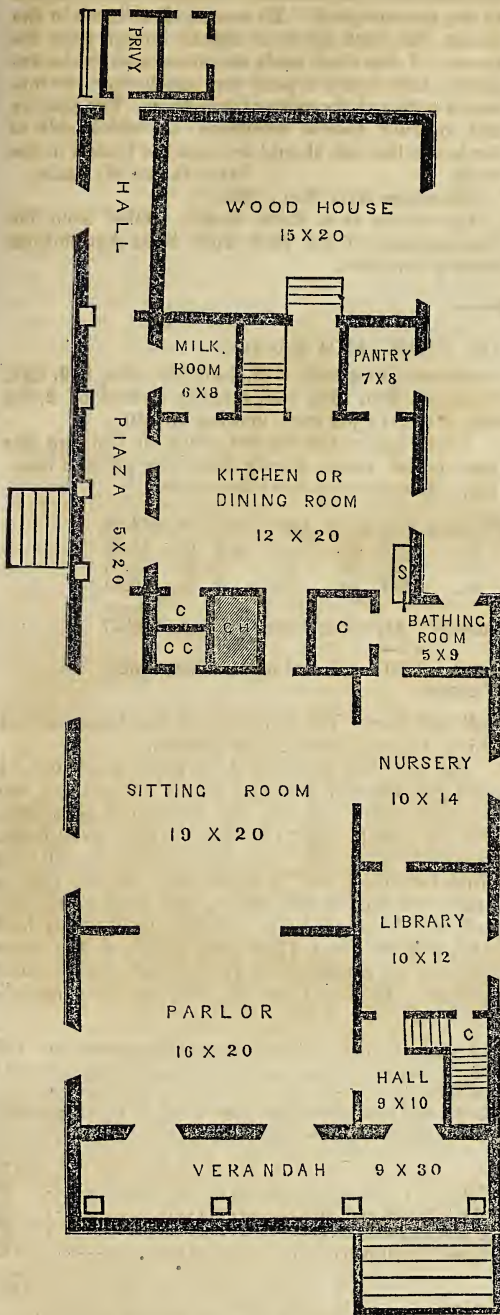
In this design I think I have secured all these conveniences without covering too much ground; and the rooms are so arranged that they may be used to suit the tastes or meet the wants of the occupants, without abridging their convenience. If a spacious parlor is wanted, it can be had by throwing the two large rooms into one. The library and hall could be thrown together in the same way, whenever the former is not needed for more private purposes. I would also have folding doors for the nursery, for convenience in case of sickness, or to be thrown open in warm weather. The library (if one is not desired) would make a very commo-

dious bed-room for children, as it communicates with the nursery.

As my main object has been to save labor, by securing convenience, the underground kitchen is intended *only* for washing and doing other heavy and dirty work of the farm. It could, however, be used as a common kitchen, if the room in the wing should be desired exclusively for a dining-room.

The house is designed for the use of a hot air furnace, consequently there is but one *real* chimney; two would be sufficient for those who do not like this method of warming their houses, by placing stoves in the library and nursery.

The dimensions of the house are 30 feet by 40 for the main building, and 25 by 35 for the wing, which I think will afford all the room necessary for comfort and convenience in a farm-house; and if some attention is paid to scenery and location,



GROUND PLAN.—FIG. 38.

may be made sufficiently elegant to satisfy any one who is obliged to consult his interest as well as fancy. Some might object to it as being *too large*. For those the dimensions could be reduced to 24 by 34 for the main part, and 20 by 25 for the wing, without altering its construction. But it must be remembered, that the *farmer* does not purchase his



SECOND STORY.—FIG. 39.

ground by the foot, and that he needs a great deal of store room, which he will find much cheaper, as well as more convenient to have under one roof; and unless it is provided in the first place, unsightly additions will be made, or little store-houses erected to mar and deface the beauty of the grounds.

I have allowed 10 feet parts for lower rooms, and 8 for those above, which will make light airy chambers. I know modern taste is generally in favor of the low cottage, and their outward appearance is certainly very picturesque and agreeable; but unless they are sufficiently spacious to contain all lodging rooms on the ground floor, I should protest against them; and I think all advocates in their favor would have abandoned their predilection, had they taken lodgings in one of their *little pretty snug* chambers, during the months of last July and August

The cistern, it will be seen, is directly beneath the bathing room, and the arch so near, that a little trouble will at all times secure both cold and warm water for bathing.

An aperture of 6 by 18 inches should be made through the floor of the milk-room, into the pantry in the cellar, which will keep the milk-room cool, and ventilate both rooms; it should have a trap-door to be closed when necessary.

A drain is constructed in a corner of the cellar kitchen, into which all dirty water and suds should be thrown to cleanse the back drain, and be saved

in the manure-yard. To ensure cleanliness in the drains, the back grounds should incline from the house. I have not made an estimate as to the expense; that would depend very much upon the materials used and the mode of finishing. The scenery and location should determine on which side of the house the hall should be, also the piazza in the wing.

MRS. JAMES M. ELLIS.

Onondaga Hill, Nov., 1846.

The above is a Prize Essay, copied from the Transactions of the New York State Agricultural Society for 1846.

COMPARATIVE WEIGHT OF PORK AND BACON.

Valuable Tables.—In your February number I promised to give your readers some more “practical facts about bacon,” to show the profit or loss upon cutting, salting, and smoking pork, according to directions in that article. I now fulfil my promise. On the 16th of Dec., 1846, I bought twelve

hogs, weighing 272, 245, 240, 237, 230, 229, 223, 212, 212, 206, 198, 189, making a total of 2,693 lbs. at \$1,87½ per cwt., making \$50.50.

According to the market price in Chicago this was the fair value, merely deducting price of hauling. These cut up next day made

24 handsomely trim'd hams,	weighing 632 lbs., to cost say 2½ cts.,	\$14.22
24 do. shoulders,	do. 580 do. do. 2 do.	11.60
24 do. sides, clear of bone,	do. 668 do. do. 2½ do.	16.65
Leaf, lard, and trimmings of belly, &c.,	do. 330 do. do. 3 do.	9.90
Trimnings of lean meat, clear of bone, for sausage, 51, it will make		\$52.37
Or \$1.87 more than the whole hogs cost, or at 2¼ cents a pound, it will exceed the cost		2,261 lbs., including the sausage meat 37 cents.

Then I had the remainder as follows :

12 joles	106
Back bones and ribs.....	158
Pates and souse.....	125
Loss in cutting up.....	43
	2693

I take no account now of anything but the hams, shoulders, and sides. For cutting and curing I have charged my own time.

1 day cutting up and salting (including board) ..	\$1.25
1 day hired man assisting.....	62
2 lbs. saltpetre, 37; 96 lbs. N. Y. salt (1½ bushels) 96 cts.	1.33
Dec. 30, work overhauling and resalting, 25 cts.; 32 lbs. salt, 32 cts.	57
Jan. 16, 1847, preparing and hanging up meat to smoke	1.25
April 2, labor of weighing bacon.....	25
	\$5.27

After smoking and drying from January 16 to April 2, it weighed as follows :

24 hams.....	571, ... loss 61, ...	632	original weight.
24 shoulders.....	534, ... do. 46, ...	580	do.
24 sides.....	636, ... do. 32, ...	668	do.
	1741	139	1880

This, at three cents a pound, will exceed the cost of the hogs, \$1.73.

Any person can, however, fix his own price upon each part, and by taking comparative weights make his own calculation and estimate of profit and loss. The weights were all carefully taken by my own hands, with the same steelyards. The hogs were well fattened upon corn. The price of pork last

fall was low. The fair price of the bacon now, I think, is seven cents on an average.

But as “one swallow don’t make a summer,” I will give another table, so that a comparison can be made with these and the former one [See Sept. No. for 1846]. Jan. 13, 1847, I killed seven hogs, weighing 331, 235, 233, 222, 173, 167, 150 (the three last pigs), and at same time received from a tenant the half of two others, that were poorly fattened, which weighed 237 and 186, making my half 212, and the total 1723 lbs., which at the same price as the other lot, \$1.87½ per cwt., would make \$32.30. These cut up the next day were as follows :—

16 hams.....	413
16 shoulders	334
16 sides	400
Leaf, lard and trimmings.....	262
Sausage meat and tail pieces.....	63
	1472
Joles.....	78
Back bones and ribs.....	80
Pates and souse	80
Loss in cutting.....	13
	1723

The per centage of loss in cutting up this lot is less than the other. This is partly owing to being better dressed.

Weight smoked.....	370, ... loss, 43, ...	413
do. do.	314, ... do. 20, ...	334
do. do.	368, ... do. 32, ...	400
	1052	95
		1147

This at three cents falls a little short of the price

fixed as cost, while the other lot at same rate exceeded it. This is owing to the small hogs in this lot. The charges against this lot are for

75 lbs. of salt.....	75
2 do. saltpetre.....	14
Cutting up and salting.....	1.00
Overhauling and weighing.....	36

\$2.25

No matter what the price of fresh pork is, if the farmer is sure that he could sell the bacon for double that price, he will find it profitable to salt instead of selling in the hog. For the lard, sausage-meat, joles, ribs, &c., will more than pay the cost and trouble of curing, and then he will save about 40 per cent., in the weight of hauling to market.

I should like to see similar calculations upon putting up pork in barrels. SOLON ROBINSON.

Crown Point, Lake Co., Ia., April 25th, 1847.

NEW YORK FARMERS' CLUB.

THE meetings of this club have been kept up as usual, and its previous character fully sustained. As most of the subjects recently discussed, have been treated of at length in our back volumes, it is deemed unnecessary to repeat what has been said.

Millet for Soiling Cows.—Inquiry was made by Gouverneur Morris, after the best kind of millet for soiling, the mode of culture, and where and at what price the seed can be had. As no satisfactory answer was given by any one present, we offer the following, which has been obtained from a reliable source:—

The kind best adapted for soiling purposes, is the common millet (*Panicum miliaceum*), which usually grows like a reed to a height of three or four feet, and bears a loose panicle of seeds hanging on one side. It will flourish on any soil adapted to the growth of Indian corn, but will produce the heaviest crop in a deep, rich loam, refreshed, if necessary, with abundance of street or barn-yard manure. The ground may be prepared as for ordinary crops, and the seed may be sown broad-cast, at the rate of half a bushel to an acre, or it may be planted in drills twelve or fifteen inches apart. Like Indian corn, when cultivated for soiling, it must be sown at successive periods, commencing in the spring as early as the season will permit. When grown for seed, it should be planted in May, and cultivated like corn. The product will vary according to the soil and the mode of culture, say from two to four tons of hay. We have the seed for sale in our warehouse, at \$1.50 per bushel.

AMERICAN AGRICULTURAL ASSOCIATION.

Introduction of the Alpaca.—This long talked of project, it seems, is likely soon to be carried into effect. By a statement lately made before the Association by the Chairman of the Committee, the services of Mr. J. D. Williamson have been secured, who is to proceed forthwith to the coast of Peru in one of the U. S. ships, where another government vessel will lie in wait to receive the animals and convey them directly to the United States without charge. Although the funds raised by the Association for this object are not large, in consequence of the aid so liberally tendered by Government,

they are deemed sufficient to make a fair trial of the experiment, and should it prove successful, it is a business which will ultimately take care of itself.

Mr. Williamson, we understand, has also received instructions from Washington to collect such seeds, plants, or other agricultural products, as can conveniently be obtained, and ship them either in public or private vessels at government expense, subsequently to be distributed gratuitously to different agricultural societies, as well as to individuals, in this county.

PREPARATION FOR THE HAY AND GRAIN HARVEST.

DURING this month and the next, will be the height of hay-making, and the reaping of grain, the most pleasing, yet the most laborious of agricultural occupations. Arduous and toilsome as these operations are, they may be greatly facilitated by the use of suitable implements, which may cost a little more than poor ones in the outset, but will prove cheaper in the end.

The first requisite, in hay-making, is a large or moderate-sized grindstone, of a sharp grit, mounted in a manner that the mower can turn it himself, and grind at the same time. Next, a good scythe, which must be well hung, with a sharp-gritted whetstone, and a well-prepared rifle, made after the old-fashioned mode, of wood, covered with a layer of grease and fine sharp sand. Then the small fork for spreading and turning the hay; one or more spare rakes, in case of accident; a large fork for pitching; hay-ladders and bolsters, for fitting on the wagon or cart; a pair of spruce hay-poles for conveying the hay to the barn or stack, in cases of emergency; and those possessing large hay-farms, will find it economical to purchase a horse-rake, and a sufficient number of mats or tarpaulins for guarding the cocks of hay in the field from showers and heavy dews.

In our agricultural labors, perhaps there is no branch more frequently slighted, and more slovenly done, than that of stacking hay and grain. The stacks are usually placed flat on the ground, often in situations where the water will not drain off, with the whole structure, rough, mis-shapen, and totally unprotected from vermin, and the rain. In England, this business is done differently, the stacks being made with the view of saving all the grain, and keeping the hay secure from the rain. They are generally placed on frames, elevated about two feet above the earth, and then built with the most exact symmetry, to the height of twenty or thirty feet, and covered with thatch. See page 335, of our first vol., for a cut illustrating the English method of stacking hay and grain.

Those who have large fields of grain to cut, if it is not much lodged, will find it advantageous to employ the cradle-scythe instead of the sickle. One accustomed to its use, will do the work more rapidly and well. In fact, the scythe is an instrument which should be more generally adopted in harvest, as long experience has fully proved.

GREEN PEA-SOUP.—Dried peas, either for soup or for eating whole, soaked until they begin to vegetate, say about two days, will taste nearly as well as when green.

REVIEW OF JANUARY NO. OF THE AGRICULTURIST.

Water for Stock.—If cold water is injurious to stock, it would be far better to provide wells wherever practicable with good pumps, which is by far more economical than cutting as in "shallow pools," as I myself witnessed in the loss of four sheep the present winter, "drowned in the water-hole"—very injurious to them surely. The great injury, however, resulting to stock from drinking cold water, is, from the fact of it being only given at long intervals, which causes them to drink too much. The propriety of giving much salt in winter is a mooted point. Many good farmers believe their stock winter better without, and have less occasion for drink. I am constrained to say, that I believe I have seen sheep do quite as well in summer and winter without water as with. And yet I cannot bring myself into the practice of not providing them with it.

Pumpkins and Apples for Swine may be very good, but I honestly believe that Indian corn is better. Although stock hogs may live and grow on apples or pumpkins, will they grow fat, and if they did what would the pork be good for? [Very good indeed fresh, but not sufficiently firm for choice packing.] I advise farmers not to trust too much to such feed? I should prefer feeding the pumpkins to neat cattle, and steaming the apples and mixing with meal for the hogs.

Another Cheap Pudding.—Take two quarts coarse corn meal (the white Southern corn is best), a pint of dried peaches chopped into pieces not bigger than large beans, a pound of chopped suet, eight or ten eggs beaten up in milk, and mix all into a stiff batter, and put in a bag, and boil three hours. Eat the same with any kind of sauce you like, and you will eat as good a pudding as ever was made at such a trifling cost. If any should be left, warm it up next day, and it will be good again.

To Remove Dust from the Eye.—The same kind of liquid here recommended is also the very best in the world to remove dust from the throat, notwithstanding a very different kind is often used to the great detriment of poor humanity; viz., brandy, gin, whiskey, and other "fire waters."

To Strengthen Cider or Vinegar by Freezing, will only leave the strong spirit, which will be found a poor way to make vinegar for family use. A better way will be to fill a basket, or a bag will do, with clean shavings, and suspend it in the mouth of a one-head cask, and then day after day pour the liquid for vinegar on the shavings, and let it slowly strain through. It will soon grow sour. Too much of the vinegar sold in our towns is muriatic acid, which is a very different article from acetic acid.

Dr. Stevens' New Theory in the Growth of Plants (if it is new to him it is not to me) contains some valuable hints that might prove of great advantage if rightly acted on. The capillary attraction of burnt bricks is so great, that in a very large portion of the United States, they are decidedly the poorest material of which a country house can be built. And yet they are often used in very damp locations, with the inside plastering laid directly upon the brick-walls, which creates a damp and unhealthy atmosphere in the apartments. And such walls are

not durable. This is not all; brick-walls are often built at an expense so much greater than wood, that the sum of the extra cost put at interest, would keep the wooden ones for ever in good repair.

Defective Stables.—There are other defects in stables besides open floors; and one of these defects is in having any floor at all. I am fully persuaded that all stables would be better without floors. Fill in and grade the earth so that the liquid would run back into a gutter, or be absorbed with litter. A composition of clay, lime, sand, and fine coal, is good to make an earthen floor. Another great defect in stables, though in town more than in country, is the want of good ventilation.

Color from St. John's Wort.—Glad to hear that this pest can be put to any good use—hope the demand will so far exceed the supply as to use up the whole stock on hand.

Steaming Apparatus.—If the tub was hung so it could be easily upset to empty, it would save labor. In many situations it would be a great convenience to fix the wheels to the tubs, so that they could be moved away to the feeding trough, and another tub rolled up to the steam pipe. There would be no difficulty in fixing the pipe to fit each tub, and be easily detached.

Seidlitz Powders make a very wholesome drink in warm weather; and if people would buy the ingredients by the pound instead of paying the apothecary for doing them up in small papers and boxes, they would save a penny; and if they would use them freely in summer, they would save a pound instead of a penny, in doctors' bills.

Improvement of Worn-out Lands.—The article from the pen of friend Tomlinson, may be taken as a pattern for all your correspondents—short, straight-forward, to the point. And the information conveyed in this short article, of what vast importance would it be to thousands if they would go and do likewise. How many, like the former owner of this little farm, have skinned and scraped "as long as it would produce buck-wheat," and then given up, in despair of its renovation, for some *El Dorado* of the West. And yet how easily, according to Mr. Tomlinson's account, is this land restored to productivity. But we want more information. Will Mr. T. give us the bill of particulars? 1st. What was the first cost of the land; 2d. the cost of draining; 3d. cost of manuring; 4th. credit for crops; and, lastly, what is the present value of the land? There are so many farms in this region that ought to be served just so, that any facts and figures that will tend to encourage their owners to go and do likewise, will be of vast public utility.

A Sketch of West Chester is a most truthful one, only it does not say one-half that the place deserves. Yes, my friend "E. S.," Reviewer has been there and rambled over the hills of that lovely county, and partaken of the real hospitality of its inhabitants. I have seen that "water-ram," and made one of the most delightful visits of my life, with that most worthy family. For Dr. Darlington, I have great respect, for he is a man that goeth about doing good. As "E. S.," appears well qualified for the duty, I hope a further and much more full "Sketch of West Chester" will be forthwith given. Such articles are useful, and always read with interest.

Management of Honey-bees, No. 6.—The theory of Mr. Miner upon two points appears to me different from the generally received opinion of modern bee-managers. That is, he gives free access to the moth, and depends upon the strength of the swarm to keep the moth out. Now I have no doubt but this may prove true in most cases. Yet during the last summer I had a very strong swarm in one of "Weeks' patent hives," that are of the same capacity, recommended by Mr. Miner, which were attacked and nearly destroyed by the moth. I have also known a good many bees perish by what people called freezing to death; yet I doubt not if they could be kept cold all the time, they would winter well. It is the freezing and thawing that kills them. Perhaps the plan of Mr. Miner, giving the hives full exposure to the weather, is the best. I should like to hear from others upon the same subject. In the meantime I hope these articles of Mr. Miner's will be carefully read by all who keep or desire to keep bees, and that he will continue to write.

Letters from the South, by Richard L. Allen, I venture to say will always be read with pleasure by every one of the thousands who read this paper. And as "the boys" always read what is written by this old friend of theirs, I wish him to be particularly careful in the grammatical construction of his sentences, and not in his haste make it appear to them that wild turkeys belong to the varieties of ducks and geese. His description of Col. Hampton's poultry-yard reminds me to say, that I am fully persuaded that out of every ten persons throughout the United States, who keep poultry, every nine of them would find it most decidedly to their advantage to keep their poultry in an enclosure. The produce would always leave a profit over the cost of keeping; besides it is much cheaper to fence the hens into a yard, than it is to fence them out of the garden and other places where they never should go. I have the same fault to find with this letter that I had with the first one. It is not minute enough. I want to look into every nook and corner of this great Southern plantation. I think I could venture to believe whatever Richard L. might say of the actual condition of the laborers upon this place, and how it would compare in point of comfort, contentment, and happiness, with the laboring class of people in other parts of the Union. But I shall go and see for myself some day I hope. Do you give the average crop of cotton high enough? It is considered below what I have understood it to be. In Mississippi, land that does not produce a bale to the acre is not first-rate. As for cotton seed being "useful for feeding cattle," I have only to say, that it is much more useful for manure. Cotton seed has a very oily kernel within a thick, hard, dry covering, that has about as much nutriment in it as there is in the scales of a hickory tree; and although it may be softened by boiling, it never can be "improved" into valuable food.

To boil Meat Tender.—Instead of ashes, use pearl-ash or saleratus, as much neater and less trouble. I wish, Mr. Editor, that you would give a recipe for every family to have a piece of meat to boil. [Well, here it is. Be industrious, economical, and virtuous, and no family in the United States will ever be in want.]

Hall's Brick Making Machine.—There is nothing

muddy about this plate. It is clearly and most plainly delineated, and the account of the performance most satisfactory. It is strange that so great a labor-saving machine, of so small a cost, should not be in more extensive use. I have never seen this machine, but I have seen a great many brick machines, and a great many failures.

A Pennsylvania Barn.—I am delighted with this picture, not the barn. But because, by turning to page 120, Vol. 5, I can contrast it with a "Massachusetts barn." Further comment is unnecessary, as I have said my say about that. The very looks of the two, my wife says, would decide any Yankee body in favor of old Massachusetts. Every one for their taste though. I hope you will continue these illustrations. It is thus that we can learn which is best. For myself, I never could build a stone or brick barn. Wood is cheaper and better in all parts of the United States.

Grinding Corn.—"No kind of grain is actually spoiled by grinding too fine, except Indian corn," I believe is one of the sayings of Solon. If all his sayings are as true as this, he is a pattern of truth. It should be printed upon every sack of corn sent to England. "DON'T GRIND FINE." But what is a "kibbling mill," or rather, what does it cost? And does it go by hand? [Same as Corn-mills advertised page 136, May number.]

Experiments with Manures on Corn.—This table of Mr. Young is worth a dozen pages of theory. I am pleased to see that domestic manures, in this case, take the lead. Ashes it will be seen stand second in value; but it must be remembered that this might not be the case upon a clayey soil. Yet they never should be wasted as they often are upon many farms, or sold for "a pound of soap a bushel," when in fact, after being leached, they are worth the double of that.

More Facts about Paulonia Imperialis might all have been contained in two lines, by simply saying, "we have 4,000 trees to sell," and take this way to advertise them. This kind of smuggled advertisements is entirely too common. They occupy space that subscribers pay for, and often are uninteresting to the general reader.

The Cure for Indigestion Prescribed by Dr. Physic, is a good one for this fatal epidemic; but I can prescribe a preventive, which is far better. Here it is. I will warrant it sure or no pay. From very infancy, "throw physic to the dogs." Drink no spirit, or wine, no tea nor coffee—particularly the latter—eat but very sparingly of any kind of spices—use no pepper except that which you can raise in your own garden—eat coarse bread and boiled meat, and well-cooked vegetables, and as much ripe fruit as you like, but never bolt your food like a hungry hog or shark, and you never will have the dyspepsia, be your employment what it may.

Cultivation of Fruit-trees.—A word to add to note (a.) In all cases where trees are to be procured from a long distance, or place inconvenient to obtain them from at the exact right time in the spring, they should be procured in the fall, and the roots carefully covered up in garden mould, where they will keep until spring, better than exposed to the storms, wind, and frost, in the ground, where they are finally to stand. Another word to note (c.) I doubt not, but a better and easier method of coun-

teracting the effect of the drouth upon newly-transplanted trees, instead of watering them, is to lay a good, thick coating of straw, leaves, or other trash around the tree for a number of feet, which will prevent the earth from drying up. Note (*h*.) is another appeal from truth and good sense to the farmers to *save your ashes*; and perhaps no better use can be made of them than applying them to fruit-trees. Ashes are also an excellent thing around newly-set trees to assist in keeping the earth moist. I would suggest to "An Amateur," never to stop asking questions, while, by so doing, he can elicit such valuable answers, which will not only serve his own purpose, but those of thousands of other amateurs in the cultivation of fruit-trees. In regard to peach-trees, I hope he will ask the question, and after getting the answer from friend Allen, "try again," and perhaps he will be able to sell peaches instead of buying. [See an article on Peach-Trees in May No., by a valued correspondent.] While on this subject, I will suggest to all amateurs, that asking questions in a plain, short form like these, upon any subject, enables the editor by himself or his correspondents, to give the information in the shortest and plainest form. I have no doubt but every sensible question is answered with pleasure by the editor, and it may often form the bud that will blossom into full-blown ideas.

Alderney Cows.—I, too, am of opinion that this breed of cattle have been very much overlooked, or rather looked over, by their great tall sisters of the Durham breed. I have no doubt but a good lot of pure Alderney cows would prove the most profitable dairy in the United States, for good, rich butter will always sell for a rich price. The Jersey practice of standing the milk "ten inches deep," is not one that I can advise to be followed in this country. Neither is it requisite for milk to stand "three days" to bring up all the cream. I have no objection to letting it stand until conglobated, provided the butter is thoroughly washed in cold water till all the sour milk is dissolved and washed out; for if one particle is left in it, it will injure the butter.

Ladies' Department.—Here is another of those extremely interesting extracts from "*The Old Lady's Diary*," in which she says that "whilst travelling last summer, her attention was frequently called to the subject of bed-bugs." Alas, and alack! what traveller does not have his attention called to these pests full often. It is truly disgusting only to think of the names of these filthy creatures, that some inn-keepers find harbors for. Our present fashion of making bedsteads seems to be particularly designed for bug-breeders. It is strange to me that iron is not more used for bedsteads. They could be made as cheap as wood; very durable and neat; and so constructed that there would not be a crack or hole big enough to make a bed-bug's nest in. I suggest to the American Institute, to offer a special premium for the best iron bedstead. There is great lack of substantiality in all our furniture of these modern times.

Sundry Items.—I cannot pass by an article of your correspondent, "E. S.," without stopping to bestow a word of commendation. Whatever is written by this excellent correspondent is sure to contain something interesting and useful. Now this one item about thawing meat is worth a year's

cost of the Agriculturist, to every family that lives in the freezing part of the United States.

Boys' Department.—Don't overlook the article under this head in the January number. It is a very interesting one. The cut delineating the crystals of snow is a most beautiful one, and worthy of the attention of old men as well as boys. Look at it again.

Hops, you say, have been exported to England; but it seems by your price-current, that it has not raised the price high enough to enable the American cultivator to live by it. In fact it does not appear to me that we can compete successfully with the very cheap labor that is bestowed upon this crop in England.

The Editor's Table, this month, contains quite a variety of good dishes, among which it is gratifying to see what a continued increase there is in books upon agricultural subjects. The "*Memoir on Maize*," I have not yet seen, but hope it is worthy of the praise bestowed upon it. I look upon the Indian corn crop as the most valuable of any crop on the face of the earth. Every part of the plant is valuable food for man or beast. The grain affords the greatest amount of food for the labor bestowed of any edible thing that is cultivated in the northern portion of America. In many parts of the United States it can be grown for 12 cents per bushel, and pay the cultivator better than any other crop. A well-written book upon this subject must be a valuable and very acceptable one to millions of the inhabitants of corn-growing America.

REVIEWER.

SOIL OF THE RED SAND-STONE FORMATION.

As you doubtless have many readers who look forward to a future day, when they intend to purchase land for cultivation, and others who are at this moment in quest of farms, a description of the soil of the "Old and New Red Sand-Stone Formations," may prove not altogether uninteresting. In making this attempt, I pretend to no scientific accuracy, but simply such observations as some practical acquaintance and general reading has furnished.

This soil, under consideration, is formed from the decomposition of the above mentioned rocks, on which it rests, and which, for all practical purposes, may be regarded as the same, although known among geologists under distinct names, referring to their position.

The soil, for the most part, entirely free from stones, is made of different proportions of clay and sand, varying in different localities; in some places forming a heavy, in others a light loam, with intermediate varieties, but seldom running into the extremes of a thick stubborn clay, on the one hand, or of a loose sand on the other.

The rocks, on which this soil rests, are stratified, and most minutely so near the surface, breaking up into thin flakes and lying for the most part at a dip [The *dip* or sloping direction of a stratum, or layer of rocks, in geology, is its greatest inclination to the horizon, or that on a line perpendicular to its direction or course; called also the *pitch*] of from 10 to 20 degrees, thus presenting a ready passage for all surplus waters, completely obviating the ne-

cessity for drains; yet by their position, prevent the leaching of the soil or a too rapid descent of the waters, which carries with it the fertilizing ingredients of the land, and in the case of sandy and gravelly subsoils is found to be a cause of much waste, ever requiring renewed supplies of manure.

The depth of this soil varies; but even where it is thin it may readily be increased by tearing up the rock with the plow. This may be done boldly, without fear of the ill consequences, which, in some cases, attends bringing the subsoil rapidly to the surface. The rock, or subsoil, is composed of the same inorganic substances as the soil itself, and is free, except in some locations of limited extent, from all noxious ingredients to vegetation; and on being exposed to the sun, air, and frost, it rapidly decomposes, and in the course of a single season becomes, for the most part, finely divided into minute particles, forming loam. Indeed, so true is this, that cases are not unfrequent, where the rock brought to the surface from a considerable depth, as in digging wells, after decomposition, has been applied, with decided advantage, as a top dressing. This is especially manifest in soils overlaying this formation, but of different characteristics. In Dumfriesshire, Scotland, it is quarried and carried out for this purpose expressly.

The land of this formation generally lies either in gently rolling fields, or somewhat elevated table lands, and from this cause and the natural drainage before alluded to, freeing them entirely from stagnant water, they are always distinguished for their salubrity. They are well adapted to the cultivation of the crops generally grown in this climate; potatoes, rye, oats, and corn, doing well, and where the soil verges to clay, wheat also. But their principal excellence is in grass, on account of which, they may be styled *grass-lands* emphatically. Where the land is in tolerable condition, white clover and blue grass spring up luxuriantly, the latter forming, in a few years, a dense heavy sod. Red clover does admirably, mowing a good swath, through the second year after sowing, when not crowded out by other grasses. Good meadows of Timothy giving from one and a half to two tons per acre, are the usual results from the land in good cultivation, and in some cases three tons are obtained, mowing for a number of years successively, or forming permanent pasturage of the sweetest quality.

Manures of all kinds tell effectively on this soil. It may be said in the language common among farmers it "hearkens quickly to them," and, owing perhaps, in no small degree, to the peculiar nature of the subsoil before alluded to, their effects are very lasting. But it is by the use of lime, that the most beneficial, and at the same time, the most economical results are produced. Here, it is rarely, if ever, known to fail in causing, on its first application, the most marked improvement, which every successive dressing seems to renew. Fields, which from sterility have remained uncultivated, or have yielded but scanty crops of buckwheat, by a single dressing of lime, have given at once, good returns, especially of grass; and under good management with no other help than lime and the manure of the farm, in a few years, have really become productive.

RUFUS.

We shall be very happy to receive further communications from our correspondent "Rufus" on the same subject, for he treats it in so plain and practical a manner, that the most ordinary mind can easily comprehend it. The great objection to scientific articles in a journal like this, conducted almost solely for the benefit of the practical farmer, is, that they abound in terms which the unscientific do not comprehend, and for that reason they are of little or no benefit to them. We wish those who write for the popular mind would always remember this, for in that case they would do great good by their essays—now they are as a sealed book to the great mass of our readers. We ought to be addressed in the same plain, familiar manner, that one would adopt in speaking to a child, as we are but children of a larger growth.

THE CAPON.

MINDA, a colored female, was a native of South Carolina, and some thirty-five or forty years ago came to this state with the family of my father-in-law, Major John Nesmith, to whom she belonged. She died some four years since on the plantation of one of Major N.'s heirs, having lived many years within fifteen miles of this place. She made, in the course of her life, many capons for Major N., his children, and, since his decease, for his widow, who is yet living and resides at this place. Minda operated with eminent success, seldom or never losing a fowl operated upon. She used no instrument save the sharpest pocket-knife she could conveniently borrow. Having made the incision, she removed the testicles with her fingers. After completing the operation, it was her custom, before releasing her patient, to push one of the testicles down his throat. This she considered very essential to the success of the operation; though I presume she made few converts to this superstition.

Some of Minda's capons were employed every season to nurse and rear young chickens. They took chicks of very diverse ages and sizes, all at the same time, carefully feeding and vigorously defending by day, and affectionately covering by night all that sought their benevolence. They soon learned to cluck and call the young brood like a hen, leading them about in quest of food, and otherwise faithfully discharging the offices of the most devoted mother. One of these capons excited much astonishment and admiration among the numerous persons accustomed to visit the place. He reared one season a brood of *forty-three chickens*. It was highly amusing at the close of day to see them, when as large as partridges, striving for a place under the wings of their protector, who in vain "spread himself" to the utmost, extending wings and tail to cover his protégées. Many of them were compelled to be content with sitting around him in a circle.

The advantages of employing capons to nurse are as follows:—First, they are equally industrious and at the same time more vigorous than the hen; second, they can protect, feed, and rear a larger brood than the hen; third, they are less pugnacious and destructive to other broods than the hen; and, fourth, while they have the care of the young, the hen has leisure to regain her flesh and give her

undivided attention to the production of eggs and hatching another brood.

The capon is taught to nurse by rubbing his breast roughly with a corn-cob, or whipping his legs with small twigs, or better still, by rubbing nettles on his breast, at the same time confining him in a box so low that he cannot stand erect, and placing the chicks under him. This was Minda's course of treatment. Perhaps the best course, however, is that practised in France, where the custom is to confine the obstinate capon a few days in a solitary dark place; then to put the chicks with him, when he is much rejoiced to have their company, and ever after remains their faithful guardian.

Some capons, however, can never be made to take chicks, perhaps on account of the castration having been imperfectly performed, which often occurs when the subject operated upon is too young—the parts then being very soft.

The greatest advantage of *caponizing* is found in the vast improvement made in the size of the fowl, the excellency and superior flavor of the flesh. If desirable, I will communicate a simple method of operating, without all the array of instruments paraded by some operators.

D. L. PHARES.

Whitesville, Miss., March, 1847.

Please to do so.—Ed.

SOILING CATTLE.

As the subject of soiling cattle has been discussed and much written about of late, permit me to contribute a few remarks on two summers' practice. I have a farm of 110 acres under cultivation, on which I keep five horses, two mules, and five cows. I prepared one and a half acres in a lot adjoining the barn and stables, sowing Timothy-seed in the fall and clover in the spring. The ground had been previously made rich for the cultivation of potatoes and other roots. The Timothy failed to come up well; but the clover and a native grass grew luxuriantly, so that from the early part of May until after harvest-time, I had an abundance of green fodder for my horses and cows. In fact I had more fodder than was necessary to consume in a green state, and consequently made a part of it into hay. In the spring, fearing there would not be grass enough upon my one and a half acres to support my animals, I planted, in drills, about a quarter of an acre of sweet corn of the large kind; but having no occasion to use it as fodder, I thinned it out just before it was in tassel, and raised therefrom about twenty bushels of shelled corn.

As to the expense of labor in soiling, I would remark that one of my men cut all the fodder necessary, before breakfast, who was followed by two others, one with a porter's cart, and the other with a wheelbarrow, and conveyed a part of it to a rack erected in the middle of my barn-yard for the accommodation of the cows, and the remainder to the stable for the horses. The animals had three full bites a day, morning, noon, and evening. Not more than fifteen or twenty minutes were occupied by the men at each meal, and this was not altogether lost time, as the men and horses had an hour to rest and feed at noon. I would remark, however, that as long as my winter's stock of carrots and sugar-beets lasted in the spring, I feed them once a day to my cows.

These remarks, I think, are only applicable to farmers in the vicinity of cities, or large towns, where a ready and accessible market offers for all kinds of vegetables and produce, and where land is too valuable to be used for the purposes of grazing.

Here I would merely add that, a few years since, the same piece of ground, occupied as above, was seeded with large clover, which grew so luxuriantly that it was thought that it could not be properly cured. It was cut green and sold in bunches, mostly to milk-men, at three or four cents each, amounting in the course of the season to about \$100. J.

PRODUCTION AND PREPARATION OF CORN FOR THE EUROPEAN MARKETS.

THE present season seems fully to have settled the question in favor of an immense exportation of Indian corn to European ports hereafter. Necessity and famine have overcome prejudices against its use there, which heretofore had been insurmountable. Appetite has given to it a relish and flavor, which otherwise it would have never been found to possess; and the recollection that it has saved millions from famine, will hereafter endeavor its use to the multitudes abroad wherever it can be had.

To provide for this permanent demand, is now the proper duty, as it will be the decided interest of the American farmer. Yet this should be done within reasonable bounds. It will not do for the sugar or cotton planter; the hemp, the wheat, or the tobacco grower, to abandon his accustomed crops, and divert from their appropriate uses soils little suited to the growth of corn; nor for the grazier, the stock-breeder, or the shepherd, to neglect or turn from his legitimate pursuits, to the cultivation of this grain. If any absurd system like this be adopted, to any extent, corn will go down and the neglected crops will go up, till the scale is reversed.

Yet there is danger of this. Americans are too impulsive, too excitable, and it is too often a feast or a famine with them. If an article or pursuit seems likely to pay, every one rushes into it; if appearances are against it, they are for abandoning it in the mass. We run from agriculture to manufactures, from manufactures to trade, and from trade to speculation. At one moment we have a high tariff, at another scarcely any; sometimes we have no banks, and at others, every village may boast its own, and the excess soon reduces the country to utter destitution again. Our pendulum is ever on the swing, and dashes far beyond the centre of gravity on either side; and if our ship gets a little out of trim, we are all so eager to right it that we rush tumultuously to one side and careen her worse than ever.

A slight addition to the quantity of acres now devoted to the culture of corn, with more careful planting, manuring, and cultivation, and with greater economy in its feeding and use, will swell immensely the annual amount sent forward to the shipping ports. Added to this, new land is constantly brought into cultivation, and with high prices and an unstinted demand staring us in the face, what so likely to command attention as an article that pays so well and makes such immediate returns? The capital required for growing this crop is so near to nothing as to be unappreciable.

In some places, a hoe and a few bushels of seed only, are requisite to make a large crop; and in all others a few plows, and teams to draw them, are the principal items of expense. With a boundless extent of soil reaching from Maine to Mexico, suited to its growth, with the enterprise and well known skill of our productive classes, stimulated to the highest pitch by exorbitant demands, we may well apprehend that our future crops will rather be in excess than deficient in this article. Certain it is, that while every effort should be made for its largest production, where it is following out a present adopted system, yet in no case should a deviation from an ordinarily cultivated crop be made for the sake of this. The sugar-planter, whose cane has been cut off by frost or diminished by excessive rains; or the cotton-grower, whose plants have been thinned and rendered comparatively barren by caterpillars, rust and other causes, may be inclined to turn from his course and trust his luck with corn, which is generally a surer, and may be supposed to be a more profitable crop.*

It may be, and no doubt generally is, the most profitable course a planter can pursue, to divide his products to the extent of raising his own supplies for plantation use; but beyond this, it is not deemed profitable to go, by such as have lands well adapted to crops already profitably occupying their attention.

The effect of high prices in one prominent product, has almost invariably the tendency of raising others; as the increased price obtained for either, stimulates demand for all. Especially is it to be apprehended, that cotton may fall behindhand, from the many casualties and the low prices that have attended its culture for the last few years.

But my present object is more particularly to call the attention of the readers of the *Agriculturist*, at points remote from the seaboard, to the propriety of properly preparing their grain for shipment. We are now beginning to receive accounts of heavy losses from the heating of grain after shipment. This damage has, in many cases, exceeded one-half the entire value of the cargo; and although this loss, in the first instance, falls on the shippers, it is pretty sure, in the end, to reach back to the producer. This hazard has become so great, from the excessive tendency to heat in Indian corn, if retaining the slightest moisture when stowed in the vessel, that some of the heaviest dealers in New Orleans have determined to risk no future shipments, without the grain being first fully prepared for it, and this is effectually done by kiln-drying.

Several establishments have been recently erected for this purpose in this city, two of which at least have proved defective in accomplishing the objects satisfactorily. Another is about being put up, of sufficient capacity to kiln-dry five thousand bushels per day. Kilns have already gone into operation in several of the exporting places on the river above, and there is no doubt these will be rapidly multiplied, till sufficient capacity shall have been

attained, to prepare effectually every bushel of grain destined to a distant market.

The best plan for this purpose, on an extensive scale, which I have seen in operation, is a new, and apparently valuable improvement for kiln-drying, the invention of George W. Woodington. He is about taking out a patent for it, for himself and Mr. George Gilbert, both of Cincinnati.

The first one ever erected, has just been put into operation. It consists of substantial brick mason-work, about twenty-four feet long, six wide, and eight high, arched with brick. The fire and grate occupy three feet of the centre, at the bottom. Immediately above the fire are iron plates, resting on the walls on either side, extending the whole length. At the other end, the flame and smoke are divided, and pass up through two iron pipes at each corner, and then on either side, and almost in contact with the cylinder, they return the smoke through the kiln, where they pass out.

The cylinder is of strong sheet, light boiler-iron, three feet in diameter, and occupies the entire length within the mason-work. On the inside of this, flanges are riveted lengthways and spirally, turning about 170° of the circle, in the whole length of the cylinder. It is placed one foot above the fire in an arch, which is kept at a temperature high enough effectually to dry the corn while passing through, which requires some ten minutes. The corn is fed into one end of the cylinder, by a spout leading from a hopper above, and it is discharged from the other end, and through a short iron conductor. It is capable effectually of drying 800 bushels in twenty-four hours, which it accomplishes without burning or cracking any of the kernels. Not one is scorched or discolored, but all have the bright, clear appearance and original taste of the grain, while its germ or vitality is effectually destroyed, thus removing all tendency to change and injury.

I cannot but believe, that all corn destined for remote shipment hereafter, will be kiln-dried. There is a saving of 9 per cent in freight, in consequence of loss of bulk and weight in drying—a saving of insurance—there is no danger from weevil from any kiln-dried grain; and there is, lastly, the frequent saving of the whole grain, which would otherwise spoil by moisture. I have the above fixtures for sale at my warehouse, 75 Camp St., New Orleans.

New Orleans, April 29th, 1847. R. L. ALLEN.

DRAINING.—A correspondent from North Carolina informs us, that he has pretty effectually drained a large body of land with a fall of only fifteen feet to the mile, in the following manner:

When I first took possession of the farm I found no drains upon it, and the fences were a complete wreck. I first cut a ditch six feet wide and four feet deep, entirely round a tract of 300 acres; then a canal twelve feet wide and five feet deep through the centre of the farm to the creek. Then I laid out the tract into squares of two and a half acres each, by tributary drains communicating with the main canal. The land getting well dried, last fall I sowed 70 acres with wheat, and 30 acres in oats. This spring I planted 150 acres with Indian corn, 25 acres in potatoes and cotton. I have also laid out 25 acres for pasturage, which I intend to sow all with clover next spring.

* An intelligent planter of the Southwest says he prefers raising corn at 30 cents per bushel to cotton at 6 cts. per lb. This opinion is not generally entertained, and its correctness must depend entirely on the adaptation of the soil, season, freedom from accidents, &c., as to the peculiar advantages either may possess.

Mr. Norton's Letters.—No. 5.

I HAVE found here a series of researches upon the nature and causes of the potatoe disease, which is, in many respects, very complete and valuable. These researches are by Professor Harting, Professor of Microscopy in the University of Utrecht. His paper upon the subject is full of interest; but, although published in French, seems to have shared the common destiny of Dutch works in being little known out of the Netherlands.

Professor Harting's researches were, for the most part, microscopic, and for such he has every facility, his rooms being furnished with at least a dozen microscopes of the best quality. He has collected potatoes, diseased and healthy, from all parts of Europe, and even from America. Guided by these specimens, he has traced the progress of the disease from its very commencement, both in the leaves and stalk and in the tuber. All of his conclusions seem reasonable and not improbable.

The disease in the tuber always commences by the appearance of a brown matter in the cells which contain the starch. Each of these cells includes a little bag filled with grains of starch, and a liquid, having in solution albuminous substances, dextrine, and a little sugar; by the decomposition of these substances is produced the brown color which, in a more advanced stage of the disease, becomes black. On chemical examination, these colored substances have all the properties of *humus* and *ulmin*, two bodies which, under the form of humic and ulmic acids, occupy a prominent position in the organic part of the soil. As the disease advances, the walls of the cells are destroyed, and finally large cavities are formed where the potato is exposed to drying influences. At, or sometimes before, this stage of the malady, parasitic fungi begin to appear, generated within the cells. Of these plants, Professor Harting has figured and described no less than nine varieties.

It has been said that these are the cause of the malady; but the most powerful microscopes show nothing of them until an advanced stage of disease, and sometimes not even then; instances are not unfrequent when the whole tuber is destroyed without their appearance. Another very conclusive reason against the fungus theory, is the fact that infection is with difficulty, if at all, transmitted by these plants. When they were placed in contact with a freshly cut surface of a healthy tuber, and allowed so to remain for a month, in no instance was the same species reproduced in one case, or fungus appeared on the cut surface, but it was of another species. The brown and black matters, on the contrary, are infectious, when allowed to remain in contact with a healthy cut surface, but not when the skin of the healthy tuber is unbroken.

From the above facts, Professor Harting draws the conclusion that these parasitic fungi are not a *cause* but a *consequence* of the disease. The same thing is his opinion with regard to insects, and here he seems to be still more obviously right. Some persons in England, with singular pertinacity, yet insist upon this explanation; but a microscope of 500 linear magnifying power, shows neither eggs, larvæ, nor insects, until an advanced period of the disease, and often they do not appear

at all; this is the case both in the leaves and tubers. If we ascribe the malady to either an insect or parasitic fungus, it will be very difficult to fix upon the real culprit, as sometimes one, sometimes another appears alone, sometimes three or four species together are observed in the same tuber.

It is easy to see from the above, that Professor Harting considers the commencement of the disease to be a chemical change. For the causes of this change he looks to the atmosphere; and in support of his views has collected a great number of thermometrical and barometrical observations, made during the year 1845, and several of the preceding years. These tables certainly show a singular state of the atmosphere during the summer of 1845. Ordinarily the pressure of watery vapors in the air diminishes towards midday; but then it increased, and the generality of vapor in the air was also unusually great. The temperature at the same time was elevated. This would hasten the movements of the sap from one cell to another, and increases the evaporation from the pores of the surface; but this evaporation, and, consequently, the general movement, would be checked by the unusual moisture and pressure of the atmosphere; at such an elevated temperature the decomposition of some of the albuminous matters would soon commence. In June, July, and August, when the temperature of the air is most elevated, the leaves and stalk were first attacked. Later in the season, when the ground was warmer than the air, the commencement was in the tubers.

Professor Harting only gives this as a probable explanation, and it has many strong points; but there are yet numerous questions occurring to me which it does not sufficiently explain. Why is it, for instance, that of two varieties, scattered through the same neighborhood, and in the same circumstances, one is scarcely at all, and the other almost invariably affected? Perhaps the solution to this and many other like objections may be found as we have further experience; in the meantime, Professor Harting has accomplished a valuable investigation in an unprejudiced spirit, and has added greatly to our knowledge of the phenomena of this disease, and gives at least much authentic *negative* information as to its causes. JOHN P. NORTON.

Utrecht, Netherlands, April 8th, 1847.

WOOL-GROWING IN SOUTH CAROLINA.—Through the kindness of a friend, we have received a Report of the Proceedings of the Union Agricultural Society, of South Carolina, by which we are rejoiced to learn that our Southern brethren are becoming more and more awake to their interests, and continue to direct their attention to those productions necessary for clothing and provisioning themselves and servants. Among other things particularly recommended in this report is the growing of wool and mutton. To those who are not familiar with the different breeds of sheep, we would recommend the South Downs as the most suitable for general purposes in that region. Their wool is quite good enough for all ordinary uses, and their mutton surpasses, perhaps, that of every other breed for summer slaughtering, being better marbled, less fat than the Bakewells, Leicestershires, or Cotswolds, and yet fat enough to give richness and fine flavor to the meat

Boys' Department.

TREATMENT OF ANIMALS.—No 1.

AMONG the many useful hints published in the Boys' Department of the Agriculturist, I do not recollect to have seen one topic touched upon at all; that is, the Treatment of Animals. Therefore, what follows, I propose as a preface to that subject.

The first requisition for a herdsman, a teamster, or a drover, is a well-subdued and well-regulated temper; for, without this, an animal is never safe in the hands of a boy, or anybody else who is lacking in this virtue. All boys may not be amiable by nature; and for such, it is necessary that they should be disciplined by a course of self-denial and self-restraint, until they have a perfect command over themselves. We may no longer look to fathers to do this, as so few of them possess perfect control over their own tempers, and where this is the case, but little good will ever grow out of their government over the tempers of their children. Hence, I say, boys, subdue and regulate your own tempers, and when this is done, I will tell you how to treat all kinds of domestic animals. S. A.

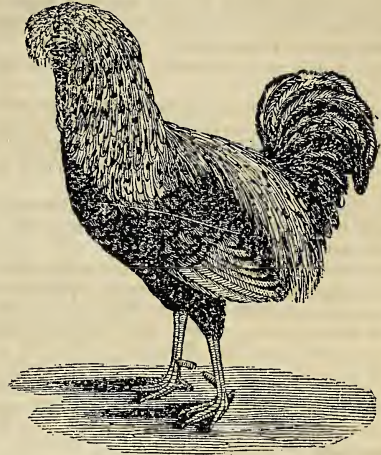
THE SPANGLED HAMBURGH.

IN describing this fowl I cannot avoid again remarking that most persons who have written upon the subject of poultry appear to have been mere compilers, and to have possessed but little, if any, practical acquaintance with the subject of which they undertook to treat; for example, in the case of the very bird now under consideration, I find, in "Dickson on Poultry," p. 15, the *Hamburgh* fowl described as possessing a singularly large comb and wattles; and while the writer states it to be a variety of the *Paduan* or *Polish*, he adds—"the nourishment expended in that to form a crest of feathers goes to enlarge the comb and wattles." Now, it so happens that the *Hamburgh* fowl have a large top-knot, with but very small comb and wattles; and another peculiarity that shall be described in its proper place. I do not follow blindly the descriptions furnished by my predecessors, however highly I may conceive their writings are, in many respects, to be esteemed. I am this moment writing my description of the *Hamburgh* fowl from two beautiful specimens as they stand before me on the table in the house of their owner, my very kind friend Mr. Nolan, of Dublin. These fowl gained the prizes at the last show of the Royal Agricultural Improvement Society of Ireland, from a host of very worthy, but still far inferior competitors; consequently, in my case, no blunder can possibly occur.

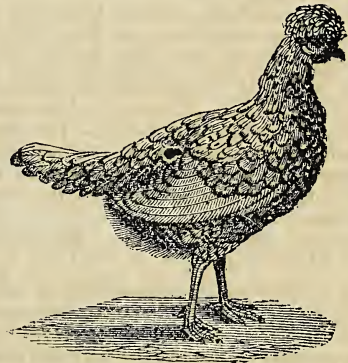
The *Spangled Hamburgh* fowl are divided into two varieties, the distinctive characteristics being slight, and nearly altogether dependent upon color; these varieties are termed the *GOLDEN* and *SILVER* spangled. The former will suffice for me to describe, as the points of form, &c., excepting only color, are identical.

The *Golden Spangled Hamburgh Fowl* is one of no ordinary beauty; it is well and very neatly made; has a good body, and no very great offal. On the crest, immediately above the beak, are two small fleshy horns, resembling, to some extent, an

abortive comb. In some specimens this crest is divided into more than two horns; but two are the ordinary and more legitimate number. Above the crest, and occupying the place of a comb, is a very large brown or yellow tuft, the feathers composing it darkening towards their extremities. Under the insertion of the lower mandible, or that portion of



THE SPANGLED HAMBURGH COCK.—FIG. 40.



THE SPANGLED HAMBURGH HEN.—FIG. 41.

the neck corresponding to the chin in man, is a full, dark-colored tuft, somewhat resembling a beard. The wattles are very small. In the *golden* variety, the hackles on the neck are of a brilliant orange, or golden yellow; and the general ground-color of the body is of the same hue, but somewhat darker. The thighs are of a dark brown, or blackish shade, and the legs and feet are of a bluish grey.

In the *Silver Spangled* variety the only perceptible difference is, that the ground-color is a silvery white. The extremity, and a portion of the extreme margin of each feather, are black, presenting, when in a state of rest, the appearance of regular semicircular marks or *spangles*; and hence the name of "*Spangled Hamburgh*," the varieties being termed *gold* or *silver*, according to the prevailing color being bright, yellow, or silvery white. These fowl have good plump bodies, a good skin, are good layers, and lay good-sized eggs.—RICHARDSON.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer *Britannia*, we are in receipt of our foreign journals to 4th of May.

Markets.—*Ashes* unchanged. *Cotton* has fallen 3d. per lb. *Flour and Indian Meal*, quite an advance.

Provisions remain about the same as per our last. *Lard* a decline of 2s. to 4s. per cwt. *Rice* in great demand. *Turpentine* a slight fall. *Tallow* the same. *Tur* scarce and firm. *Tobacco* dull. *Wool* the same.

Money is scarce, the rates of discount high, varying from 6 to 8 per cent. on the best paper. Some was done as high as 10 per cent.

The weather was favorable, and crops of all kinds looked well.

Donations to Ireland and Scotland.—The amount of flour and grain which the Americans have sent to the starving Irish and Highlanders, has been the universal theme of eulogy in Ireland, and of warm and generous sympathy in Great Britain.

Emigration to the United States is unprecedented. Whole villages in several parts of Europe are likely to be depopulated by it.

Des'tuction of Insects by Hot Water.—Mr. Gordon, the Superintendent of the ornamental department of the garden of the London Horticultural Society, has ascertained that the scale insect, with all its young ones, eggs included, may be effectually destroyed and even dissolved by means of water heated to a temperature of 140° F., and this, too, without injury to the bark of the trees on which the insect feeds. It may be applied by a syringe or a sponge, to the parts of the tree where the scales reside.

Water, at a temperature of 140°, undoubtedly, would destroy the young, tender leaves of plants; therefore, it should be applied, if possible, before the trees put forth. It is not improbable that this method will be found applicable to most other insects which infest woody plants and trees. Boiling-hot water has been applied with success to the vine and peach-tree for killing insects, without any apparent injury therefrom.

Agricultural Statistics of Ireland.—The returns of the harvest of 1846 give 2,162 lbs. of wheat per acre as the result of last year's crop all over Ireland, except the county of Kildare, against 2,186 lbs., the average produce of past years; 2,155 lbs. of barley, as last year's crop against a former average of 2,298 lbs.; 1,726 lbs. against 2,130 lbs. per acre of oats; and of potatoes, one-half only, of which are supposed to be lost, the crop of last year being on an average of 821 lbs. per acre against a crop of 17,808 lbs., as in former years!

Facts in Pruning.—The general principles of pruning, as distinguished from hardwork, are few in number, and among the easiest of all things to understand; but their application is manifold, often difficult, and always special. For example, it is an axiom that hard pruning produces barrenness, and that slight pruning leads to productiveness; a second well known law is that the removal of one bud or branch strengthens another; a third law teaches us, that to stop a branch by cutting away its extremity, compels what is left to produce side branches, which might not have otherwise appeared. Then again, the necessity for using the pruning-knife at all is often obviated by the employment of the finger and thumb; that is to say, a young branch may be prevented from appearing by pinching off its bud as soon as it begins to push, as well as by first allowing it to grow, and then removing it—and better. All these, and all such, facts are plain to the meanest capacity; the difficulty is how to apply them, and when, and where. The answer to such questions is only to be found in experience, and in a very careful examination of the peculiar mode of growth of each species of tree to be operated on. For no two species of tree can be found of which it is the nature to grow, flower, and fruit, exactly in the same way, and

every variation in the manner of growing, flowering, and fruiting, demands a corresponding variation in the mode of applying the principles of pruning.—*Gardeners' Chronicle*.

Importance of Deep Tillage.—However skilfully and philosophically we may carry on our saving and application of manures; however well we may select our seed, and choose our seed-time, without deep tillage we can by no means receive the maximum result. Drained land deeply stirred, and thoroughly pulverized, becomes a kind of regulator of the weather for itself; it is not soon soaked in wet, and it forms a storehouse of moisture in dry weather. It is a bad conductor of heat, and is therefore not easily over heated; but on the other hand it is not soon cooled, and so keeps up an equal temperature by night and by day, in cloud and in sunshine—in the highest degree favorable to the healthy development of plants.—*Farmer's Herald*.

Pulverization of the Soil.—The grand object of pulverization of the soil is to give free scope to the roots of plants for without an abundance of roots no plant will become vigorous, however rich the soil may be in which it is planted. Pulverization, therefore, is not only advantageous previous to planting, or sowing, but also during the progress of vegetation of most plants. At this stage the operator, by means of pruning, or cutting off the extended fibres, causes them to send out numerous others, by which such food as is in the soil is the more readily taken up. Pulverization increases the capillary attraction, or sponge-like property of soils, by which their humidity is rendered more uniform. This capillary attraction is always greatest where the particles of the soil are finely divided. Gravels or sands retain little or no water, while stiff soils, as clays, which have not been opened by pulverization, either do not absorb water, when by long action it is absorbed, or they retain too much. Water is not only necessary to the growth of plants, but it is essential to the production of extract from the vegetable matter which they contain, and unless the soil by pulverization is so constituted as to retain the requisite quantity of water to produce this extract, the application of manures would be useless. Water is known to be a condenser and solvent of carbonic acid gas, which is immediately carried by it to the roots of vegetables. The depth of pulverization must depend upon the soil and subsoil. In rich lands it can scarcely be too deep, and even in sands, unless the subsoil contains particles noxious to vegetables; but very dry sands, if the season is hot and dry, should merely be stirred, otherwise the great evaporation of moisture which would take place by deep pulverization, would render them too dry for vigorous growth of plants. By deep pulverization the temperature of the earth is increased. As earths are bad conductors of heat, it would be a considerable time before the gradual increasing temperature of spring could communicate its genial warmth to the roots of vegetables. It is thus of the utmost importance to have the land open, so that the warm air and tepid rains of spring may have free ingress. Some soils are more readily heated than others, and some soils cool much sooner than others. In general, soils that consist principally of a stiff, white-clay are difficult to heat, and being usually very moist, they retain the heat only for a short time. Chalks are similar in one respect, they are difficult to heat, but being dry they retain the heat longer. A black soil is readily heated; colored soils, and those soils containing much carbonaceous matter, exposed under equal circumstances, acquire a much higher temperature than pale-colored soils. When soils are perfectly dry, those which most readily become heated by the solar rays, likewise cool much more rapidly. Abundance of animal and vegetable matter, when heated to the same degree, will cool much more slowly than a wet, pale soil entirely composed of earthy matter.—*A Contemporary*.

Editor's Table.

CATALOGUE OF AGRICULTURAL IMPLEMENTS, &c.—We have had many requests for our catalogue for the past four months, with which we have been unable to comply in consequence of the edition having become exhausted. We shall print a second edition in August, and shall then be happy to furnish all applicants gratis. Our friends will please to send in their requests any time after the 1st September for such as may be wanted.

THE AMERICAN VETERINARIAN; OR DISCASES OF DOMESTIC ANIMALS, showing the causes, symptoms, and remedies, and rules for restoring and preserving health by Good Management; with Directions for Training and Breeding. By S. W. Coles, editor of the Agricultural department of the Boston Cultivator, assisted by Sanford Howard, Esq., of the Albany Cultivator, and Dr. Holmes of the Maine Farmer. Boston: John P. Jewett & Co. pp. 288. 18mo. For sale by C. M. Saxon, 205 Broadway, N. Y. Price 50 cents. The farmer and stock-breeder will find much valuable information in this little work, which it concerns them much to know; by reference to its directions they may be enabled to save many a valuable animal which otherwise might be lost. We recommend all those who keep domestic animals to procure Mr. Coles' book.

DE BOW'S COMMERCIAL REVIEW—NEW ORLEANS, MAY, 1847. Monthly, of 100 pages. Terms \$5 a year. This work has now been published regularly for eighteen months, and embodies an extensive amount of information in relation to all the practical interests of our country, and more particularly of the South and West. Its circulation has been continually augmenting, and its character established all over the Union. Among the contributors may be mentioned the names of Hon. Joel Poinset, R. Greenhow, Department of State, Hon. B. F. Porter, J. P. Benjamin, and E. J. Forstall, of New Orleans; Col. J. Gadsden, Hon. W. J. Grayson, and R. F. W. Alston, Charleston; Hon. Geo. Eustis, Hon. T. McCaleb, Hon. Maunsel White, New Orleans; R. Abbey, Mississippi; Dr. J. C. Nott, Alabama, etc. etc. The Chambers of Commerce of Charleston and New Orleans have both passed series of resolutions unanimously approving and commending the work. A large number of the first merchants of the former city have published a card to the public to the same effect. We think that we may with safety commend the Review to the patronage of the whole American public. The Editor, J. D. B. De Bow, may be addressed at New Orleans. The work is well got up and embellished with numerous wood cuts of cities and other matter connected with commerce, the mechanic arts, and agriculture.

IMPORTED STOCK.—By the ship *Constitution* which arrived here from Liverpool, on the 12th May, George Vail, Esq., of Troy, received a superb three-year-old Short-Horn heifer, called *Arabella*, from the celebrated stock of Thomas Bates, of Yorkshire, England. She was got by the 4th Duke of Northumberland, her dam by Duke of Cleveland, her grand dam by Belvedere, &c. Her color is red, save a few white spots. Being descended from good milking stock, she will prove a great acquisition to the herd of her enterprising owners, and of much service in improving the stock of the country.

PICTORIAL HISTORY OF ENGLAND.—This excellent work has reached the twenty-second number, and its character and execution are fully sustained.

OFFICERS OF THE AMERICAN INSTITUTE.—The Annual Meeting of the American Institute, of New York, was held on the 13th ult., and the following officers chosen:—Mahlon Dickerson, President; Shepherd Knapp, James J. Mapes, John Campbell, Vice Presi-

dents; Henry Meigs, Recording Secretary; T. B. Wakeman, Corresponding Secretary; Edward T. Backhouse, Treasurer; T. B. Wakeman, Superintending Agent.

THE CHRISTIAN PARLOR MAGAZINE, Edited by J. T. Headley, and published Monthly, by E. E. Miles, 151 Nassau street, N. Y., at \$2 a year. This work is prettily got up, with numerous handsome engravings, and is a very proper one for the parlor table. Its editor is well known as one of the most brilliant writers of the day, and we have no doubt he will be the means of making this periodical eminently popular throughout the country.

THE PIG, BY WILLIAM YOUATT, with the History, Rearing, Feeding, and Diseases of Swine. This work has recently been published in London, and is the last with which we shall be favored by the lamented author, he having died previous to its passing through the press. It is an octavo, and beautifully got up. We do not think it is edited with the ability and completeness of Mr. Youatt's Treatise on the Horse, Cattle, or Sheep. Nevertheless, it is quite a respectable publication, especially in that part which relates to the diseases of swine, and one that has long been wanted. In one thing the author has been rather unfair upon us, he having repeatedly quoted from our writings and otherwise made use of our ideas, without giving us the slightest credit whatever. However, we shall not complain, as our writings on this and other subjects have been general plunder with the agricultural press for the past ten years.

We have for some time been engaged in collecting the materials for writing a work on Swine, to be published by the Messrs. Harper, and shall soon bring it out. We trust, when it appears, it will be found worthy the confidence of the public, and such a one as will meet the wants of the American farmer. Messrs. Lea & Blanchard will immediately republish Youatt, but that will not interfere in the slightest degree with our contemplated work.

FLORAL AND HORTICULTURAL EXHIBITION OF THE AMERICAN AGRICULTURAL ASSOCIATION.—The first exhibition of fruits, flowers, and vegetables, of this institution was held at their rooms, in the Lyceum Building, in Broadway, New York, on the 19th and 20th of last month; although not very numerous, the specimens were of the choicest kind, and in the most healthy condition.

Shrubs.—Among the ornamental shrubs we noticed a beautiful *Araucaria excelsa* from Messrs. Dunlap and Thompson, also *Spirea reevesiana* and flowers of *Paulownia imperialis* from Messrs. Thomas Hogg and Son, the latter of which attracted general attention, as they were the first ever produced in this country. A sample of *Datura arborea* from Mrs. Wm. B. Astor, which had been highly invigorated by applying to its roots a solution of sulphate of iron (three drachms of the iron to one quart of water).

Flowers.—A splendid seedling *Camellia*, several specimens of *Calceolaria*, and *Pelargoniums* from Noel J. Bécar, of Brooklyn; *Pelargoniums* from James Peniman. W. Russell, of Brooklyn, fine seedling *Pelargoniums*. Mr. Boll, a variety of seedling *Azalias*.

Garden Vegetables and Fruit.—*Asparagus* from J. C. Beekman, T. Burrows, Abraham Van Sicklen; *Rhubarb* from Van Sicklen, J. Briell, S. P. Jones; *Lettuces*, *cucumbers*, and *cauliflowers* from J. C. Beekman; *New potatoes* from the Miss Rutherfords of Newark, and J. C. Beekman; *Strawberries* and *green peas* from A. P. Halsey; *Mushrooms* from R. K. Delafield.

The next monthly exhibition will be held on the 3d Wednesday of June, the 16th. On account of the greater number of fruits and flowers at that season, it will be found highly worthy of a visit.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MAY 19, 1847.

ASHES, Pots,.....per 104 lbs.	\$5 00	to	\$5 12
Pearls,.....do.	6 44	"	6 50
BALE ROPE,.....do.	5	"	6
BARK, Quercitron,.....ton.	37 00	"	40 00
BEANS, White,.....bush.	1 25	"	1 75
BEESEWAX, Am. Yellow,.....lb.	26	"	30
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	16	"	28
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	12
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	5 00	"	6 00
CORPAGE, American,.....lb.	11	"	12
COTTON,.....do.	10	"	14
COTTON BAGGING, Amer. hemp,.....yard,	11	"	14
FEATHERS,.....lb.	25	"	34
FLAX, American,.....do.	7 1/2	"	8 1/2
FLOUR, Northern and Western,.....bbl.	8 00	"	8 37
Fancy,.....do.	8 50	"	9 00
Southern,.....do.	8 00	"	8 25
Richmond City Mills,.....do.	9 00	"	9 50
Buckwheat,.....do.	4 50	"	5 00
Rye,.....do.	5 75	"	5 88
GRAIN—Wheat, Western,.....bush.	1 75	"	1 87
Southern,.....do.	1 70	"	1 75
Rye,.....do.	1 12	"	1 13
Corn, Northern,.....do.	1 00	"	1 03
Southern,.....do.	98	"	1 00
Barley,.....do.	70	"	75
Oats, Northern,.....do.	50	"	55
Southern,.....do.	45	"	50
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.	60	"	65
HEMP, Russia, clean,.....ton.	275 00	"	280 00
American, water-rotted,.....do.	160 00	"	320 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	9	"	10
HOPS,.....lb.	8	"	10
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 50	"	4 56
Sheet and bar,.....lb.	4 1/2	"	5 1/2
MEAL, Corn,.....bbl.	4 88	"	5 00
Corn,.....hhd.	20 00	"	22 50
MOLASSES, New Orleans,.....gal.	32	"	34
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 25	"	2 38
Pitch,.....do.	88	"	1 06
Rosin,.....do.	75	"	85
Turpentine,.....do.	3 25	"	—
Spirits Turpentine, Southern,.....gal.	38	"	43
OIL, Linseed, American,.....do.	65	"	75
Castor,.....do.	75	"	80
Lard,.....do.	85	"	90
OIL CAKE,.....100 lbs.	1 50	"	1 75
PEAS, Field,.....bush.	1 25	"	1 75
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	10 00	"	12 50
Prime,.....do.	8 50	"	9 50
Smoked,.....lb.	7	"	11
Rounds, in pickle,.....do.	5	"	7
Pork, Mess,.....bbl.	14 50	"	16 12
Prime,.....do.	12 00	"	13 25
Lard,.....lb.	9	"	10 1/2
Bacon sides, Smoked,.....do.	6	"	8
In pickle,.....do.	5	"	7
Hams, Smoked,.....do.	8	"	12
Pickled,.....do.	6	"	10
Shoulders, Smoked,.....do.	6	"	7
Pickled,.....do.	5	"	8
RICE,.....100 lbs.	4 25	"	5 00
SALT,.....sack.	1 25	"	1 35
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	7	"	10
Timothy,.....bush.	2 00	"	4 00
Flax, clean,.....7 do.	10 25	"	11 25
rough,.....do.	10 50	"	11 50
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	6 1/2	"	9
SUMAC, American,.....ton.	35 00	"	37 50
TALLOW,.....lb.	8	"	9
TOBACCO,.....do.	2	"	7
WHISKEY, American,.....gal.	30	"	31
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	30	"	35
Half blood,.....do.	20	"	25
Common do,.....do.	18	"	20

REMARKS.—By reference to our Price Current this month, it will be seen that, Quercitron Bark, Guano, all kinds of Grain and Flour, Hemp, Lead, Pork, and Rice, have risen, and the demand for these articles abroad is likely to continue and prices rule high throughout the season. Farmers have the best prospects ahead, and can continue to plant and sow as much as they can possibly well cultivate, with the assurance that their labors will be amply rewarded after harvest is over, with good prices for their products.

Money continues reasonably abundant, with large importations of specie.

The Weather, though cold for the season, has upon the whole, been favorable for getting in spring crops. Vegetation is still quite backward, and the country is suffering somewhat for want of rain. We continue to hear complaints of the wheat-crop, but nothing particularly alarming. The peach-crop has been nearly destroyed south of us by frost, and in this vicinity it has not been injured. Other kinds of fruit promise abundantly.

Acknowledgments.—Abstract from the Returns of the Agricultural Societies in Massachusetts, for the year 1846.

TO CORRESPONDENTS.—Communications have been received from Pax J. J. S., B. F. Ward, An Old Lady, M. W. Philips Veritas, A Friend to Southern Agriculture, and G. H. T.

DUCHESS AGRICULTURAL INSTITUTE.

This institution, located on the *Wilkinson Premium Farm*, in the Western valley of Union Vale, Dutchess Co., N. Y., is still in successful operation, having commenced the summer Term on the first of April, with its usual number of pupils. The Principal, gratefully acknowledging the support of his patrons for the past year, respectfully solicits at the hands of the public that patronage which his efforts and the character of the institution justly claim, and hereby pledges himself to endeavor to continue carefully to guard the morals of his pupils, and let their course of instruction be such as to render them, not only thorough, practical, and scientific Farmers, but, accomplished Gentlemen.

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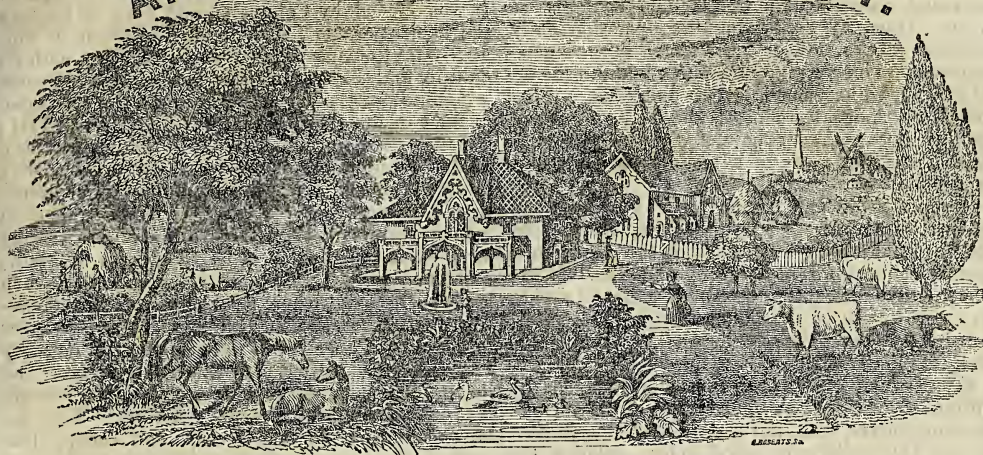
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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VI.

NEW YORK, JULY, 1847.

NO. VII.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

TRANSPLANTING CABBAGES.

BEFORE planting out your cabbages, the ground should be deeply plowed or trenched, and the soil thoroughly pulverized, and supplied with a due quantity of well rotted dung, or other stimulating manure. The dung may either be dug or plowed in, or it may be laid in the bottom of the drills just before planting, and covered by splitting the ridge between the drills with a plow, taking care, however, that the last stirring of the ground should be at the time of planting.

If possible, plant in rainy weather; but if this cannot be done, sprinkle on the beds, containing the young seedlings, just before night-fall, a few bucketsful of water, previously tempered by the air and sun, and shortly after, take them up with a little earth adhering to their roots, and plant them in the plot or field where you intend them to grow. As soon as they are planted, in dry weather, they should receive a liberal supply of water, otherwise they will mostly die, unless they are screened from the sun. When inserting them in the ground, care must be observed not to bend or entangle the roots. The distance of planting must, in some measure, depend upon the strength of the soil, and the size of the variety to be grown; but it should always be such, as the ground between them may be dug and kept clean. When the larger kinds are planted, as the drumhead, &c., two and a half feet between the rows, and about two feet between each plant, will be required; while for the York and smaller kinds, eighteen inches between the rows, and a foot or fifteen inches between each plant will be sufficient. The ground around the plants should be constantly kept loose and free from weeds as long as it can be done without disturbing or injuring the leaves.

The knobs or clubs that are often formed on the

roots of cabbages are thought to be caused by insects, and may be prevented by putting wood-ashes into the holes at the time of planting.

HOW TO MAKE GOOD VINEGAR.

COMMON household vinegar is usually obtained from wine, cider, beer, malt, fermented sugar, molasses, &c., the alcohol contained in them being converted into acetic acid by the absorption of oxygen, which is more or less intermixed with gum, sugar, and other vegetable matter. The principal requisites necessary to form any of these substances into good vinegar, are, contact with the air of any temperature between 70° and 80° F., the presence of alcohol, and the addition of some extraneous vegetable matter to promote the acetous fermentation.

Pure, unadulterated cider-vinegar, reduced to a proper strength, is considered the best for general use in this country, and is always attainable by those who possess apple-orchards, or cider of their own, and should be more abundantly supplied in market than it is. An excellent article may be made by putting away good strong cider, without adding anything to it, in one or more substantial casks in a warm place under cover, with the bung-holes open, but covered with fine gauze, in order to admit the air, and there let it gradually undergo the necessary fermentation. If the casks are frequently shaken, and their contents occasionally drawn from one to another, the process is hastened. When fit for use, a small portion of the vinegar should be drawn from each cask, and its place supplied with a like quantity of cider that is fresh. In large establishments the operation may be carried on with a number of casks at once, worked in pairs, by commencing with one filled with good vinegar and another of the same capacity filled with pure cider.

First draw out a quart or a gallon, as may be, from the cask containing the vinegar, and replace it with an equal quantity from that which contains the cider. Thus, by continuing the operation daily, for some weeks, one or more hogsheads, of good, wholesome vinegar may be formed, without the addition of any foreign or injurious materials. When sufficiently sharp, the vinegar should be drawn off into smaller casks or bottles, tightly bunged or corked, and put away in a moderately cool place for use.

A superior vinegar may be made by filling a barrel one-third full with strong cider, reduced by freezing, and letting it stand with the bung-holes slightly covered for at least nine months. If the fermentation does not proceed with sufficient rapidity, a few quarts of the liquor may be withdrawn, boiled for a short time, skimmed, and then poured back into the cask.

A vinegar of good strength may be produced by putting 6 lbs. of sour yeast made of leaven and rye-flour, mixed with hot water, into a cask containing 100 gallons of good cider, agitating the whole with a stick, and then let it remain for six or eight days. It is necessary to draw off this vinegar and bung it up close, as soon as it is made, otherwise it will quickly growapid or flat.

Those who have not cider, or grape-juice, at their command, can make a tolerable good vinegar, by any of the following directions, which we copy from Cooley's "Cyclopædia of 6000 Practical Receipts," but it will be less pure and more liable to spoil, than that made from cider, malt, or wine:—

Sugar-Vinegar.—Add brown sugar, 4 lbs., to each gallon of water, and proceed as with cider.

German Household Vinegar.—Take soft water 7½ gallons; honey or brown sugar, 2 lbs.; cream of tartar, 2 ounces; corn-spirit, 1 gallon. Ferment as above.

To prevent mouldiness in vinegar, the following methods have been proposed:—Concentrate by freezing, or by distillation; put up the vinegar in bottles and keep them well-worked; or boil it in a well-tinned kettle for a quarter of an hour; put it in uncorked bottles; place them in a kettle of water with their necks above the surface, and let them boil for an hour; then take them out, cork them up, and the vinegar will keep for several years without growing mouldy or turbid.

HOW TO MAKE WELSH RARE-BITS.—For each person take a quarter of a pound of rich new cheese, chop it fine, and put it into an iron or tin saucepan. Add a little water or beer, and stir it over the fire until the cheese is dissolved. Have in readiness a slice of toast on a warm plate, upon which the mess should immediately be poured. For seasoning, use pepper, mustard, and salt, according to your taste.

BLACKBERRY MUSH.—Boil two quarts of blackberries ten minutes, and add half a pint of molasses. When it boils again, dust into it, from the edges, three table-spoonfuls of fine wheat-flour; stir it all the time, and when the flour is completely mixed in, it is done enough. It makes a cheap and healthful dessert for the table, and is capital for the children to take to school to eat with bread, for dinner.

CULTIVATION OF TURNIPS.—NO. 1.

THE cultivation of the turnip is of great antiquity. It was lauded by Columella, and even in his time the ancient Gauls fed their cattle on them in winter. The Romans were so well acquainted with its culture that Pliny mentions having raised some weighing forty pounds. Turnips were cultivated in the gardens of Britain in the time of Henry VIII.; but they were not much raised in that country as a field crop, until about the year 1730, when they were introduced into Norfolk, by Lord Townsend, from Germany. Before that time it was difficult to manage light soils to advantage, the land becoming soon exhausted by the repeated growth of grain; and as no regular rotation of green crops was then known, the land, when thus worn out, was necessarily left fallow, or thrown into pasture, in order to recruit. The soil of Norfolk, being naturally very light, yielded but little under this system; but turnip-husbandry, in regular rotation, has brought that county into a high state of fertility. They are now regarded as a fallow crop, and occupy that part of the rotation which closes one course, and commences another.

Soil.—Turnips delight in a loose soil, on new land, in which they are raised to the greatest perfection, and with the least hazard. Sandy loams, in good heart, are most favorable to their growth, though they will thrive in strong loams if they are not wet; but the crops in the latter will be rank in their taste, and run to flower at too early a period in spring. It is useless, however, to attempt to raise them on a stiff, clayey soil, or one that is too wet, unless they are perfectly pulverized, drained, and rendered fertile, if necessary, by the addition of manure; and even then, in the dry, hot climate of America, they are a very uncertain crop. No crop which is raised, is so well adapted as turnips, for the application of every kind of manure.

Manures.—Wood-ashes, burnt-turf, sheep-fold, chalk, sea-sand, lime, rape-dust, guano, broken bones, bone-dust, oil-cake, sea-weed, and indeed every other kind of fermented manure, are all calculated to produce good crops of this vegetable. But nothing hastens its growth so much as liquid manures, such as that of bones dissolved in sulphuric acid, guano, &c., applied about the roots of the plants towards evening, care being observed that it is properly diluted. The Scottish farmers have a maxim, that, "The turnip is the mother of the dung-heap; and the dung-heap is the mother of everything else." This is literally true, if the cultivation of green crops be the foundation of good husbandry, as is undoubtedly so in many cases. Hence the turnip should be placed at the head of the English system of husbandry the same as the corn crop stands at that of the American.

Varieties.—There are a great variety of this valuable root, all of which may be classed under the heads of the *White*, the *Yellow*, and the *Swedish*; but to cultivate all is not so desirable as to plant such as are the most productive and are best adapted for use. Those which are deemed best for culinary purposes are the early Dutch and red-top, for autumn and early winter supply; and the yellow Aberdeen, the golden Maltese, and ruta-baga (Swedish), for spring. The latter remain firm, solid, and are good quite late in the spring, when

most other kinds have become pithy and unfit to eat. The varieties best adapted for feeding stock, are the Swedish (ruta-baga), Dale's hybrid, Lawtown hybrid, the Norfolk, and the large globe.

Period of Sowing.—The period of sowing the flat varieties, varies according to the climate and the season in which they are intended to be consumed. Those designed for summer use should be sown early in spring. But the main sowings intended for the kitchen and the feeding of stock during the winter and spring, should be done in Canada and the northern parts of the United States by the middle of July; but in the southern parts of New York, New Jersey, Pennsylvania, and most of the Western States, the time may be prolonged until the middle of August or the beginning of September. If sown earlier, they are not so tender nor so finely flavored; and if sown later, they will not generally attain their full growth. The ruta-baga, the globe, and the Norfolk varieties require more time to perfect themselves. Therefore, they should be sown at least a month earlier than the other kinds.

Selection and Preparation of the Soil.—It has been proved by long experience in this country, that old sod, well rotted, or newly-cleared land, recently burnt over, produces the largest and the finest flavored roots. Those who do not possess lands of this description, but have a few sheep, can raise a small patch of the flat turnips by folding the ground at night for two or three months previous to sowing the seed. But those who design to enter into field culture on a large scale, must render their land as rich as possible, by adding manure, especially if the crop is to be removed from the ground.

In the cultivation of turnips, there are four things which ought to be carefully attended to: 1st, to have the ground in a finely pulverized state. This may be accomplished by deep and rough plowing just before the freezing of the ground; 2d, to force forward the young plants into rough leaf, in order to secure them from the attack of the fly. This is best effected by drilling the seed with guano, bone-dust, rape dust, prepared compost, or other stimulating manure, or by soaking the seed in a solution of concentrated chemical manures; 3d, to have the ground clean and free from weeds before the seeds are sown, and watching the growth of weeds afterwards, and cutting them off before they choke the crop; 4th, to keep the ground constantly loose and open about the plants, by stirring it between the drills in dry weather. The oftener the ground is stirred the better, provided you do not disturb the roots of the plants.

In preparing a field for a crop of turnips, unless it be folded or burnt land, it should be plowed and cross-plowed immediately after harvest in the fall. A good coating of barn-yard manure should be turned under, which it is not necessary should be rotten, as it will become thoroughly decomposed and incorporated with the soil, at the time of sowing. If barn-yard manure cannot conveniently be had, its place may be supplied by plowing in a green crop of clover, lucern, or buckwheat, the summer before, and let the land lie in a fallow during the fall. About the beginning of summer, the next year, another plowing must be given, with repeated harrowings, in order to destroy the weeds and pulverize the soil. Just previous to sowing broadcast, the

ground must receive a dressing of well rotted compost or barn-yard manure, which should immediately be plowed in; but if guano, bone-dust, &c., be used, it is better to sow in drills. If the land be dry, let it be plowed quite flat; but if wet and springy, form it into ridges or beds sufficiently high to keep off the water; or, after the last manuring, plow it into four-furrow ridges and drill on the top of each.

Choice of Seed.—New seed should always be sown in preference to old; and it is thought to do better if brought from a cold climate to a warmer one, or changed as often as every other year, as otherwise, it is believed to degenerate, and the quality of the roots become impaired. Should the farmer raise his own seed, he may select turnips of a large size of a perfect form, and plant them in a row about a foot apart as early in the spring as the season will admit, taking care to keep them free from weeds and voracious birds until mature. They will ripen their seeds in this country from June to August, according to the climate and the latitude of the place, which, in general, will be sufficiently early for the autumn crop. No two varieties must be allowed to grow together, nor in the neighborhood of any of the cabbage or brassica tribes, as their pollen is liable to mix and produce worthless seeds. When sufficiently ripe, the seed-stalks may be cut, well dried in the sun, the seeds beaten out, and stored for use.

Preparation and Sowing of the Seed.—The quantity of seed recommended, varies, according to the condition of the soil and the variety employed—say, from a pound and a half to six pounds to the acre, if sown broadcast, or one-half as much if sown in drills. When sown broadcast, it may be more regularly distributed by mixing it with a half bushel of damp saw-dust, or other materials, to the acre in order to increase its bulk. Whether sown broadcast, or in drills, the growth of the plants may be greatly accelerated and sooner carried forward beyond the power of the fly, by soaking the seeds for 36 hours in a solution of 1 lb. of guano to 10 gallons of water; or 1 lb. of Kagenbusch and Co.'s germinating compound to 4 gallons of water, the same length of time.

The most approved mode of cultivation, when land is high and labor cheap, is to sow in drills on the top of ridgelets formed by the plow, allowing the plants to remain where sown, and thinning them out at proper intervals, the first time of hoeing. When the ground is ready, and guano, bone-dust, or barn-yard manure is to be applied, commence opening the drills with the plow, making the furrows from 20 to 24 inches apart, from centre to centre, according to the strength of the land. Then spread the manure equally in the drills, and cover it with the plow, by splitting the furrows in the middle, turning one-half of the earth each way, so that the manure may lie in the centre of the drill when closed in. An acre of ground will require from 250 to 400 lbs. of guano; 15 to 20 bushels of bone-dust; 4 or 5 bushels of bones dissolved in 100 lbs. of sulphuric acid; 200 to 250 lbs. of superphosphate of lime; 20 or 30 bushels of wood-ashes; or from 500 to 1000 bushels of fine, well-rotted, barn-yard manure.

When the drills are thus completed, the seed may

be sown with a drilling machine, if one can be had; if not, and the quantity of ground be small, a little furrow may be made with a hoe or pointed stick along the top of the drill, about an inch and a half, or two inches deep; and the sowing may be done by means of a bottle, having a quill inserted in the cork, with which the seed may be deposited tolerably even, and with considerable rapidity. The seed is best covered by running a light roller over the top of the drills; or, in a small way, it may be done by drawing over them the back of a shovel loaded with a small weight.

In newly-settled countries, where land is cheap, and labor high, it is more economical to sow turnips broadcast, and cover the seeds by means of a brush-harrow, or rake. The ground, in this case, must be plowed in the fall, replowed the following summer, and finely pulverized by harrowing previous to sowing the seed. When newly-burnt land is employed, the ground should first be cleared of all logs, brands, and loose stones. Then, without any further preparation, the seed may be sown broadcast, and the ground immediately after run over with a heavy iron-toothed harrow, which should be followed by an iron rake or hoe, in order to more perfectly cover the seed around stumps and large stones, or other places where the harrow may not have done its work.

By adhering to any of the modes as above, which may be safely practised wherever circumstances are favorable for their adoption, good crops may generally be secured, unless affected by drouth or the fly, both of which must carefully be watched, and if a failure is likely to ensue, measures should immediately be taken to resow the ground. In our next number we propose to treat of the after culture, and the mode of securing and disposing of the crops.

THE BARBERRY-BUSH NOT INJURIOUS TO GRAIN.

Much has been written, and particularly of late, for the last hundred years in reference to the influence of the barberry in blighting grain; and as recently as the year 1826, a statute was passed by the legislature of Connecticut, which is still in force, for the eradication of this harmless shrub. In an article written by the late Dr. Dwight, of Yale College, in answer to some inquiries made in 1800 by the Connecticut Academy of Arts and Sciences, it is stated, that, in the year 1796, the town of New Haven appropriated \$200 for the purpose of destroying barberry-bushes within its limits, and that individuals were supposed to expend as much more. This was done, it is stated, because, from examination, the evidence was deemed conclusive, that the bushes had an injurious effect on grain. Dr. Dwight supposed that the blight was occasioned by the wind carrying the effluvia and the decayed blossoms over the field; and he states that wherever they fell, the grain was blasted. Others contend that the mischief is done by the pollen of the barberry flowers, commingling with that of the grain; but this theory falls to the ground, when we consider the fact that the barberry is out of flower several weeks before either wheat or rye comes into bloom.

The error of this doctrine has been ably and scientifically refuted by Messrs. Du Hamel, Broussonet,

and Drs. Grenville and Lindley, a notice of which will be found on page 243, of our last volume. And besides, numerous instances are on record in this country, where grain has been fully exposed to the barberry in various stages of its growth, without the least injurious effect. As a case in point, we quote from a communication by Mr. Warren Hecox, of Skaneateles, in the 7th volume of the Cultivator, in which he states, that for the purpose of testing this question, he planted a barberry-bush in the midst of a field of wheat. "On my wheat ripening," says he, "it proved a good crop of plump wheat, and no way injured by the barberry in any part; *the heads of wheat which shot up in the top and among the branches, some of which rested or lay reclined on the leaves of the bushes, were equally plump and good as any in the field.* The bush was green and thrifty. Some of the branches or limbs had grown ten or twelve inches; there was a sprinkling of oats in the wheat, some within five feet of the barberry, as plump and good as ever I saw. There was an acre of barley in the same field, twelve or fifteen rods distant, as good and plump as any I ever had. My neighbor's field of winter wheat, only twenty-five rods distant, was not at all affected or injured, but plump and good."

PATENT SELF-ACTING CHEESE-PRESS.

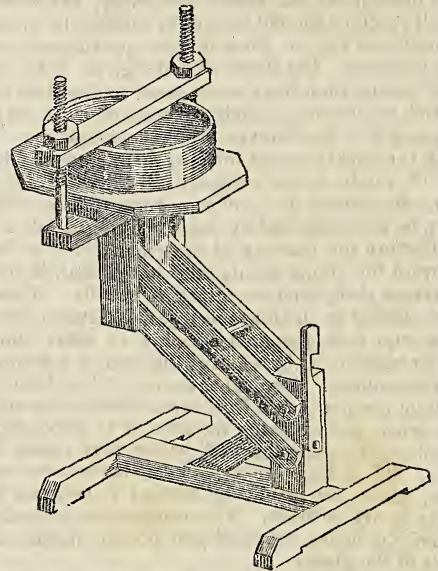


FIG. 42.

For cheapness and simplicity of construction, strength, power, durability, and the perfect manner in which this implement does its work, we think it will eventually supersede every other cheese-press in use. It is so constructed, that by means of two pair of double-acting levers, the cheese presses itself, by its own weight, and this, in ten-fold proportion. Thus, if a cheese weigh 20 lbs., it will exert a constant pressure on itself of 200 lbs.; and whenever a greater pressure is required, for every pound added, a power of ten pounds is gained; or in other words, if it be desirable to exert an additional force on a cheese of 1000 lbs. it

will only be necessary to put on the press a parcel of stone or any other material weighing 100 lbs.

The advantages of a press of this kind must be obvious to every one, as it serves equally well to give the gentle pressure required for the delicate cream-cheese, as for the thorough and more perfect condensation of those made of milk. The cut denoted by Fig. 42 gives a tolerably good idea of the appearance of the machine; but the manner in which it acts cannot intelligibly be explained without the article itself. Price \$7.50.

MODE OF DRAINING AND RECLAIMING SINK-HOLES OR STAGNANT POOLS.

In many parts of the country there exist deep depressions or hollows in the surface of the earth, commonly known under the names of sink-holes, frog-ponds, &c., which are filled a great part of the year with stagnant water, rife with pestilence and disease, and contaminating the air during the summer months, for miles around. These pools, when drained, afford an abundance of muck of the most valuable kind for making composts, or mixing with barn-yard manure; or they may readily be converted into rich tillable land. In many places where these holes abound, at some distance below the surface there is a stratum of loose sand, which will freely admit the passage of water; and it is generally found that their bottoms consist of a thin stratum of clay or impervious mud, overlying the sand. In order to drain them, all that is necessary, is, to dig or bore one or more holes in the bottom, till you reach the stratum of sand, when the water will be immediately absorbed and the pond become dry. Several pools of this description, on Long Island, have lately been drained in this way with perfect success.

A friend of ours informs us that within his recollection, there was a large frog-pond, about 40 miles from Boston, which covered an acre of ground. Its middle was overgrown with alders and other aquatic shrubs, affording a safe retreat for the black birds to rear their young, while near the margin, the water was a yard or more deep, harboring nothing but frogs and reptiles, which had wantonly been pelted with stones from year to year, by every idle urchin or teamster as they passed that way. The pond had remained in this condition for at least a hundred years, having passed through the hands of several owners, who had regarded it as of no value, until at last it was suggested, that if it were properly drained and cleared of its bushes it might be converted into a fertile meadow, and even into a rich garden for the production of vegetables. The owner, being a man of good understanding, took the hint, and one dull hay-day, in the month of July, went with his men and commenced digging a broad, deep ditch, with the view of draining its water into the lower level of a neighboring pond. The next morning, the weather being fine, the mowing was resumed, and no attention was paid to the ditch for some days, when, upon examination, it was found that the water in the pond had fallen several inches, having evidently been absorbed by the porous sand at the bottom of the newly-formed trench.

Advantage was immediately taken of the last named circumstance, and several broad pits were

sunk near the margin of the pond, with which they were connected by short, deep drains. By this means, the pond soon became dry, which, notwithstanding the laughter and ridicule of his neighbors, encouraged the owner to persevere. The winter following, the bushes were all grubbed up by the roots and burnt on the spot the next spring. The soil, it was ascertained, contained the trunks of a number of large pine-trees, in a sound condition, which, probably, had fallen into the pond some centuries before, and, in process of time, became water-soaked, sunken, and finally were imbedded in the mud. These trees, in the course of the year, were dug out, cut up into convenient lengths, and carried away for fuel. Early in June of the second season after the pond was drained, the ground was levelled, thoroughly harrowed, and planted with potatoes, which yielded a fair crop. What the subsequent treatment was, our friend was unable to inform us; but in passing that way some ten years afterwards, he remarked that the "old frog-pond" was heavily laden with a beautiful crop of grass.

THE DOMESTIC FLORA OF CHINA.—NO. 1.

WE have lately received from London a very interesting work entitled "Three Years' Wanderings in the Northern Provinces of China," containing an account of the Agriculture and Horticulture of that country, new plants, &c., &c., by Robert Fortune. This work, which is the result of patient research and untiring perseverance, will, doubtless, wherever it is read, effectually dispel the mystery that has so long shrouded the *penetralia* of the "Celestial Empire." Instead of "a highly civilized nation, as it has hitherto been represented, "supreme in arts and agriculture, and powerful in proportion to its numbers," we find China to consist of little more than a country of "ruined cities, falling temples, venal officials, a cowardly populace, and a feeble government." Nor do the much lauded arts and sciences of the people justify the extravagant praises bestowed upon them by Du Halde, Macartney, and others. In truth, it would seem that China only became partially known to Europeans when their own country was in a state of barbarism, and when the refinement and skill of the Eastern nations formed a striking contrast with those of the West. But since that period, China has slowly been on the decline, while Europe and America have rapidly advanced. If, however, this singular people do not hold a high rank in the scale of civilization, it cannot be said that they take a low one. They are ingenious, industrious, patient in their labors, hospitable and liberal-minded, and often exercise in perfection many of the highest virtues of a patriarchal age, as our author has clearly shown.

Mr. Fortune was sent to China by the London Horticultural Society for the purpose of obtaining new plants of an ornamental and useful character, with instructions to give every possible attention to the horticulture and agriculture of that wonderful country. His work therefore contains, in addition to the usual subjects treated of by travellers, a large amount of information on these two points, which we propose to publish in a condensed form in two series of articles, one to be headed the "Domestic Flora of China," and the other the "Agri-

culture of the Chinese." Amongst other things of interest, the author completely elucidates the history of the Chinese tea, having been an eye-witness of all the operations attending the culture and preparation of this great article of commerce. He has established, beyond a doubt, the important fact, that black and green teas are both produced by the same plant; and that the difference in their quality depends entirely upon the manner of preparation. We will devote the remainder of this number to his highly interesting account of the flora of the island of Chusan.

CHUSAN, in spring, is one of the most beautiful islands in the world. In the morning the grass sparkles with dew, the air is cool and refreshing, the birds are singing in every bush, and flowers are hanging in graceful festoons from the trees and hedges.

The new plants of the island, some of which I had discovered in the preceding autumn, I now saw in flower for the first time. Early in spring the hill-sides were covered with a beautiful *Daphne* with lilac flowers (*Daphne fortunei*, Lindl.); *Azalea ovata*, Lindl., certainly one of the finest and most distinct plants of this kind which I have introduced, also grows wild on the hills, and was in full bloom at this period. A fine new *Buddleia* (*B. lindleyana*) had a most graceful appearance, as its long spikes of purple flowers hung in profusion from the hedges on the hill-sides, often side by side with the well-known *Glycine sinensis*. Another plant, certainly one of the most beautiful shrubs of northern China, the *Weigela rosea*, was first discovered in the garden of a Chinese mandarin near the city of Tinghae on this island. This spring, it was loaded with its noble rose-colored flowers, and was the admiration of all who saw it, both English and Chinese. I have great pleasure in saying that all these plants and many others, natives of Chusan, are now growing in our gardens in England.

The flora of Chusan, and all over the main land in this part of the province of Chekiang, is very different from that of the south. Almost all the species of a tropical character have entirely disappeared, and in their places we find others related to those found in temperate climates in other parts of the world. I here met, for the first time, the beautiful *Glycine sinensis* wild on the hills, where it climbs among the hedges and on trees, and its flowering branches hang in graceful festoons by the sides of the narrow roads which lead over the mountains. The *Ficus nitida*, so common around all the houses and temples in the south, is here unknown; and many of those beautiful flowering genera which are only found on the tops of the mountains in the south, have here chosen less exalted situations. I allude more particularly to the *Azaleas* which abound on the hill-sides of this island. Most people have seen and admired the beautiful azaleas which are brought to the Chiswick fêtes, and which, as individual specimens, surpass in most instances those which grow and bloom on their native hills; but few can form any idea of the gorgeous and striking beauty of these azalea-clad mountains, where, on every side, as far as our vision extends, the eye rests on masses of flowers of dazzling brightness and surpassing beauty. Nor is it the azalea alone which claims our admiration;

clematises, wild roses, honeysuckles, the glycine, noticed above, and a hundred others, mingle their flowers with them, and make us confess that China is indeed the "central flowery land." There are several species of myrtaceous and ericaceous plants, which are also common on the hills, but no species of heath has ever been found, and I believe the genus does not exist in this part of the country.

THE GARDEN-ENGINE.

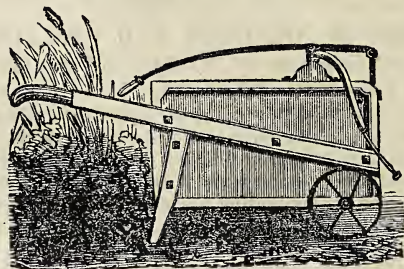


FIG. 43.

THE box of this engine, which holds 40 gallons, is placed on cast-iron wheels, with handles attached, so that a man or a boy can move it about with ease. The calibre of the pump is $2\frac{1}{2}$ inches in diameter, and is mounted with double-acting valves and pistons, that will throw water, with the aid of one person, 70 feet horizontally, or to the height of 40 feet.

This engine is well calculated for watering gardens, washing windows, destroying vermin on trees and shrubbery, protecting buildings against fire from other buildings, &c. Soap-suds, or diluted gas-water, thrown by it on plants or trees, will destroy worms and insects. It will prove a very useful implement to horticulturists, and may be serviceable, in time of drought, for watering gardens, nurseries, &c. Price \$40 to \$50.

NORTHERN PLOWS FOR THE SOUTH.

A DISTINGUISHED planter in Mississippi writes us, that he has a northern cast-iron plow, which he has used for four years, and that he has but just had occasion to put on a second point or share to it. We believe it cost him originally \$6.00; and he adds, if it had cost me \$20, it would have been cheaper than any home-made plow at \$7.

Look at the advantage, he writes, of possessing one like it. No sharpening, no mending, no laying, and no time lost in running to the blacksmith's shop. One of our common plows would have cost the first year 75 cents for sharpening; \$1.25 for loss of time going to the shop, &c. The second year, \$1.75 for laying and sharpening, and \$1.25 for loss of time. The third year the same. Thus one team would have used up two plows ere this at \$7 each, and \$10 for expenses on them; whereas my northern plow, with two or three more points, may last me four years longer. If all my tools were of this stamp, I could keep a set of two-horse and a set of one-horse plows, a set of cultivators, scrapers, bull-tongues, shovel-plows, &c., not costing over \$150. I could thus employ more workmen, and my plows would not cost me over \$20 to \$30 a year on an average. Now a set of our

single-horse turning plows certainly cost me over \$30 a year without counting the loss of time going to the shop and working with bad tools.

I cultivate seventeen acres per hand, not including my garden, potato, or oat crop; and I can do this as easily as my neighbors cultivate twelve to fifteen acres. Many of the planters within 25 to 30 miles of me will scarcely credit this, because they do not know the economy and saving of labor in using improved implements. I have now ten acres of corn growing per hand, from which I hope to raise 3000 bushels this season.

REVISIT TO GENERAL JOHNSON'S FARM.

AGREEABLY to promise in our April number, we have made another visit, in company with the Board of Agriculture of the American Institute, to the farm of General Johnson, in Brooklyn. We were highly gratified in walking over the grounds with the old gentleman and his sons, and had a fine opportunity to judge of the capabilities of his farm and of the manner in which it is conducted. His crops all looked well and some of them were in a high state of perfection, particularly his pie-plants (rhubarb), of which he has growing eight or nine acres. We noticed several plants of the Victoria rhubarb, with leaves nearly a yard in diameter, and stalks of a corresponding size. His horses and other stock were in fine condition, and showed the effects of good keeping by his improved mode of soiling.

There is one feature in regard to General Johnson's farm, that we cannot omit to notice, which, in our estimation, entitles him to be considered as a benefactor. It appears that his lands with those of others in the vicinity were laid out, in perspective, into city lots, about ten years ago, and had he yielded to the offers that were frequently made him, his farm, long ere this, would have been cut up into streets, divided, sold, partially built over, and probably would have been doubly profitable to himself in a pecuniary point of view. But what has been the result? The farm has been kept together, carried on and maintained after his own heart, and has annually produced to the public a large amount of food and vegetables which otherwise never would have existed.

NEW YORK FARMERS' CLUB.

Special Premiums by Individuals.—At a late meeting of the club, the Secretary announced the following special premiums to be awarded at the Twentieth Annual Fair of the American Institute:—

By General James Tallmadge, late President of the Institute, for the best twenty yards of American Linen, regard being had to the economy of its production, a large GOLD MEDAL.

By Shepherd Knapp, Esq., Vice President of the Institute, FOUR GOLD MEDALS, for the following objects:—1st, For an Improved Farm-Waggon for farming purposes, combining the following requisites: lightness of draft, strength, durability, and moderate cost. 2d, For the best four-wheeled leather-covered waggon, capable of carrying four persons and designed for common use, taking into consideration strength, lightness, economy, dura-

bility, and appearance, the price to be given—also an estimate of the cost of one with seats for six. 3d, For the best Double Harness for a waggon. 4th, For the best Single Harness for a waggon.

It is a rule of the Institute that the exhibitor has no claim to a premium, if there is no competition.

Premium for the Analysis of Indian Corn.—Mr. Roswell L. Colt, of Patterson, N. J., authorized the Institute to award a premium of ONE HUNDRED DOLLARS for the best analysis of an entire plant, including the grain, cob, silk, husks, spindle, leaves, stalk, and roots, of Indian Corn.

Although we highly commend Mr. Colt for this liberal and praise-worthy offer, we think that he will see upon reflection, an insuperable difficulty in appropriating the money in the shape of a premium. For it is well known that almost every variety of Indian corn differs in the nature and proportions of its constituents; and should two or more competitors each select a distinct variety for analysis, it is obvious that they would arrive at different results, however able or faithful they might perform their work. We would suggest, therefore, that the sum be placed in the hands of an able chemist, with instructions to expend it, as far as it will go, on some well-known variety of corn, commencing with the grain, cob, husks, silk, &c., and in due time report the same to the parties concerned.

THE STRAWBERRY QUESTION.—Mr. Wm. R. Prince wishes to put on record the fact, that the strawberry which Downing has so often commented upon as the Hovey seedling, with perfect blossoms and of a vacillating character, is not that plant, but a *totally distinct variety in foliage, flowers, and fruit*. He proposes to publish an article on the subject, as soon as the fruiting season of the strawberry is past.

POPULAR ERRORS.—NO. 4.

Summering Manure.—Notwithstanding all that has been said and written, showing that fresh manure immediately applied to the land, or such as is preserved in tanks or under cover, or by a mixture with straw or earth, is at least four times the value of that left in the barn-yard all summer exposed to sun and rain, wasting its richness in the air and drenching its fertilizing salts away; yet many farmers still believe, or act upon the principle of belief, that manure is like cider, growing better with age; and thus their dung is safely kept in the yard till August or September, a great nuisance to all around, and a sad loss to the growing crops.

We are well aware that rotted manure is considered indispensable for certain crops, and therefore many say they prefer to sustain the loss of its rotting to the inconvenience of using it in an unfermented state. Let those who thus think, consider, that when manure has become rotted it is then mere humus or vegetable matter, such as decomposed leaves of trees, straw, hay, cornstalks, muck, turf, peat, road and ditch scrapings, which may be had on every farm to answer the same purpose as the rotted manure. How many farmers let all these substances go to waste, thus subjecting themselves to a double loss—a depreciation in the value of their manure, and a neglect of the vegetable matters on their premises and around them.

REVIEW OF THE FEBRUARY NO. OF THE AGRICULTURIST.

Planting the Isabella Grape Vine.—"He that runs may read;" and he that reads may plant his vines without any further directions. It needs no comment—turn back and read it. Please, Mr. Editor, give us the after culture in the same common sense style. All of your readers cannot turn to the book you refer to. [Will probably do so another year].

Cisterns in Farm Yards.—Before reading the communication of my particular friend, Dr. Underhill, I had made up my mind that "cisterns in barn yards" meant rain-water cisterns for holding water for cattle; a place quite as worthy of notice as those for holding manure, and in fact much more so in many places. There are many fine farms, within my knowledge, where stock water, at all seasons, is extremely inconvenient. How strange it is, that the owners of such do not provide cisterns. It must be because they are not aware how cheap it can be done. Will you publish some plain directions, with quantity and cost of water and lime for a cistern to hold one hundred barrels? In most cases the mortar can be plastered directly upon the earthen walls of the vault, without building a brick wall.

American Agriculture.—These remarks upon the book of this title, lately published by Richard L. Allen, are just what might be expected from the good sense of the Editor of the Horticulturist.

New Self-Sharpening Plow.—Long before this I had come to the conclusion that all the ingenuity of those *cute* Yankees, Ruggles, Nourse & Mason, had been expended upon the numerous plows heretofore given to the public. But it seems from this "latest improvement" that there is "one more left." If they continue to make them equal to the sample now shown at your ware-rooms, nothing can exceed them in appearance. I am well satisfied that the improvement is a most valuable one. Speaking of plows reminds me that the editor of the *Prairie Farmer*, when he was here last year, promised to send you one of the much-bragged-of steel plows from Chicago. Has he done so? If he has I have never noticed it while rambling over your museum of agricultural curiosities which you exhibit gratis, and with apparent pleasure, to all who will take the trouble to call at 187 Water street; a place which I am always pleased to visit when I am down town, and have an hour to spare.

A Mowing Machine.—In a conversation with Mr. Hussey, at Baltimore, a few years ago, he told me that he had devoted a great deal of time and careful attention to this subject while perfecting his reaping machine, without ever being able to produce a machine that would be useful except upon very smooth meadows entirely free from stones, and even then, accidents would happen from meeting with one that had been carelessly thrown there. It was his opinion, and it is mine after much study upon the subject, that mowing machines will never come into universal use, because they cannot be made to cut close enough to the ground.

Water-Cress Cultivation.—This article I have read with very great interest. It strikes me that there are many places within striking distance of this city (New York), where plantations of this ex-

cellent and healthy vegetable could be made to produce great profits to the cultivator. It is a subject well worthy the attention of the Farmers' Club, or American Agricultural Association. I think I will bring it before them at their next meeting. I would also suggest that the American Institute offer one of their agricultural premiums for the best plantation.

The Land Sabbath.—Unless more profitably kept than the Christian Sabbath is by a large portion of this generation, had better never have been. The product would be a crop of very noxious weeds.

The Army-Worm.—Has your correspondent "Mr" ever seen the waste and ravages of an army of worms? I have. Some years ago I was traveling in the southern part of the State of Indiana, and my attention was first called to notice the "army-worm" by observing the blighted appearance of the vegetation on one side of the road, while on the other it looked green and beautiful. At first I did not notice the cause. But casting my eyes to the ground, I was alarmed to see the whole surface of the road apparently alive and moving from under my horse's feet. So completely did the army-worm cover the ground, that I could see nothing else, nor until I slackened my speed was I able to distinguish that the moving mass was composed of individuals all going the same way. I soon came to an opposing army of men and boys, horses, oxen, and plows. The commander of this force was cutting entrenchments and putting all his force at work to keep the invaders off his farm. To do this he plowed a deep continuous furrow around the exposed sides of his farm just inside of the fence, into which the worms tumbled and piled up until the furrow became so full that the invaders could pass over the mass of their comrades at the bottom of the ditch and reach the opposite bank. For they are unable to ascend the perpendicular side of the furrow of fresh earth. To prevent the furrow from getting full, a boy and horse were dragging a heavy log along in the furrow at short intervals, followed occasionally by the plow to clean out the filthy mass. And it was by such constant attention that one blade of grass could be saved from the jaws of this voracious army. Can human means, with all its "bonfires," destroy the larvae of such an army?

Hints to Flax Growers.—Is there not a mistake in figures here? Mr. Parker states the price of Russian flax at six to twelve cents, and American at six to ten cents, while the whole tenor of the article seems intended to show that American flax is the lowest price of any in the world—and "is unable to compete with the worst country" in the culture of flax. Now I am of a different opinion. True, we cannot compete with the pauper labor of Europe, where the wages of the laborer are calculated at the lowest point above actual starvation; but with our cheap lands of the West which abound in excellent soil for flax, we can raise flax in the very rough way that we do, for six to ten cents a pound, as well as the English farmer can his with all its laborious preparation for market, and upon a soil where the annual rent of an acre would buy the fee simple of twenty acres in the West for the price stated. I have no doubt but flax would be found a much more profitable crop upon some of the Western prairies, distant from market, than is

the wheat crop, one year with another; for it must be remembered that in our mode of culture we save seed and lint from the same growth.

New Seedling Potatoes.—Mr. Smith's interesting account of his experiments winds up, like too many communications, with "potatoes to sell." If he believes in "the degeneracy of the potatoe, and its liability to run out," and consequent necessity to obtain a new stock from seedlings, I don't. I would as soon believe that wheat was about to run out because it was struck with the rust for several successive years. I am always pleased to see experiments made to improve our old stock; but I cannot recommend the public to buy under the expectation of getting a new variety that will be proof against the all-pervading and mysterious potatoe disease.

The Corn or Fly Weevil.—Mr. Ruffin says most truly that "several insects very different in their appearance and habits are called 'weevil,' which serves to confuse the prevailing and erroneous opinions concerning them." It is a fact that the word "weevil" means just what the person having it has previously known as "my sort of weevil." In some parts of the United States the "Hessian fly" and nothing else is the weevil. Now this is an insect as entirely different from Mr. Ruffin's weevil as he is different from a ruffian. In other places the grain-worm, that has infested the wheat of New York, is called weevil, which is also very unlike the one now under observation. And I am not certain that Mr. Editor Allen and Mr. Ruffin are talking about the same insect. Although I have seen enough of the real Southern weevil to eat up corn sufficient to feed seven millions of starving Irish, I have never examined one of them closely enough to decide whether they are the same as the Angoumois moth that created so much excitement in France eighty or ninety years ago. If Mr. Ruffin can point out an effectual way to prevent the ravages of this dreadful pest, it will be of more value to the South and Southwestern states than all his previous valuable services to the agriculturists of that vast region.

To Revive Old Writing, reminds me to deprecate the use of all "blue ink." Although it may sometimes be good and durable for aught I know, yet in nine cases out of ten it is a fleeting show. As an example; a bond concerning the title to a piece of land was put into my hands to-day, for advice, which was written only two years since, that cannot now be deciphered. A short time since I was called into court as a witness, to prove what had once been written upon a paper that once had been a note made of modern "writing fluid." Unless people will desist from using the vile stuff, nothing in your columns will be more useful than recipes "to revive old writing."

Mr. Norton's Letters.—This gentleman's letters are always interesting. Pray, Mr. Allen, can you tell us the best method of making the small pipe tile, that Mr. Norton speaks of as superseding all others in the vicinity of London, and the expense of making and laying it in this country. [We could; but it would require a long written explanation and several cuts to illustrate it; and we doubt whether the subject is of sufficient interest to American farmers to compensate for so much expense and trouble we should necessarily be at in doing this].

Popular Errors.—Lest your correspondent has not heard of all the vagaries of the moon, I will tell him that I once had a neighbor who was sure that if he should lay the worm, or bottom rail of a new fence in the old of the moon, the whole would rot down and settle into the ground in half the time of one built in the new of the moon.

Mastodon Cotton, No. 1.—The number indicates that more is coming. I hope that after reading a long series it won't turn out to be like a great many other articles, a mere announcement of "a new and very superior kind of cotton-seed for sale. Price, \$5 a bushel!"

Bees, No. 7.—Pray, friend Miner, what is the difference to me whether my bees freeze to death or starve to death, in consequence of getting so cold that they cannot eat? They do "winter kill," I know, and I would like to know how to prevent it. Perhaps if I give a more earnest attention to your articles, past and future, I shall yet be able to "live and learn."

Weather Predictions.—These six lines from the writings of M. Arago, will be read by every reader of the *Agriculturist*; and yet not one in a hundred, perhaps, will take the trouble to think who M. Arago is or was, or why he should think that all "weather predictions" belong to the family of "popular errors." It appears to me that the two words that head this article might be profitably employed for a text to a series of articles upon this subject. It certainly is one upon which the mind of the present generation needs much enlightening, and the "Almanac makers" as much correcting, as they do for planting cucumbers in the moon, or encouraging them to look to the Almanac to see whether or not "a storm may be expected somewhere about these days." All weather predictions should invariably be accompanied with that true and never failing old saw: "*All signs fail in a dry time.*"

Letters from the South, No. 3.—If it had been three times as long, it would have been three times more interesting. Who ever tires in reading a fluent well told description of a section of country that they never saw, and perhaps feel deeply interested in? Is it a fact that rice is the most profitable crop in the United States? If so, why is not the cultivation extended to the North? It is not an exclusively southern crop. I have seen it grow finely as far north as Lat. 40°; and the wild rice of the Northern Lakes grows most luxuriantly I know some 5 or 6 degrees further north. Friend R. L. A. is not quite right in regard to what cattle fatten upon in the cane-brakes. Those "evergreen leaves" possess just about as much "palatable nutritiveness," as the grass in your father's old bog-meadows did after a frost, or an equal quantity of shavings from hickory hoop-poles. The small cane is not the young cane, nor does the old cane put forth young shoots; but in all cane-brakes there are constantly springing up from the ground new stalks, which are without leaves and branches for the first year, and are as soft and tender as half-grown corn-stalks, and as much loved by cattle, and equally nutritious. This is called "mutton-cane." This is what bears live upon, and for which they resort to the cane-brakes. It runs up 15 or 20 feet high in one season, and obtains at most full size before it becomes

the hard hollow tube we find it as used for fish-poles. After it is three years old, there is less change in its growth or appearance for 30 or 40 years than any other grass that I know of. Whenever it seeds, it dies. In 1832, if my memory serves me, there was an universal seeding of corn on the Mississippi. The seed is something like oats in looks and nutriment. "When cane-brakes are abundant cattle will fatten:" but the "range" must be very large, or it will soon "run out;" for this gigantic grass is soon destroyed by the inroads of civilization. Tennessee, Kentucky, Southern Illinois, and Indiana, were once covered with cane, which is now rarely seen in all that vast region.

But some of those *taverns* are not so rare!

To Render Paper Incombustible.—I wish some of our political papers would try it, instead of so much "villanous saltpetre."

More Facts about Pork and Bacon.—Friend Solon has given us some very plain, straight-forward directions how to do up the thing in real Hoozier style; and "Down East folks" must indeed be "hard to understand," if they need to ask any more questions. As for that bacon which he brags so much about, if he will send "a sample" to the New York Farmers' Club, and they will let me know when the "Hoozier Ham" is on the table, it shall be properly tested and reported upon. It certainly is a very cheap and easy way of salting pork if it will do. The "cotton bag" mentioned, I presume, is to be made of cotton sheeting, and not of "cotton bagging." I see the Editor of the Farmers' Cabinet recommends the same. Let's try it. [If Mr. Robinson will be so good as to reply to Reviewer's hint with a fine large ham, we will see it properly cooked and set before the Farmers' Club.]

A New Way of Fattening Hogs.—I can improve upon this "six feet square." It is to confine each hog in a narrow stall where he can never turn round from the time he is put up to fatten till killed. The stall should be about ten feet long and two wide—the trough at one end and door at the other. A wide plank is to be made to fit in grooves at each end, which being put in, the one which makes the stall the narrowest at first, is moved out as the porker grows and needs more side-room. If he belongs to a *respectable* family of hogs, he will back up to the door every time occasion requires, to deposit his offal, which should be cleaned out daily, and at other times he will lie and sleep upon the clean floor, with his nose close to the trough, with nothing to disturb him in his solitary confinement. The floor should pitch from the trough, and all roofed in. Any number of these stalls can be arranged "all in a row." There is no more need of a hog turning round in his stall than there is for a horse to do so. It is only the fashion. [We enter our caveat against this close confinement of fattening animals—the meat of such is not near so healthy and nourishing. Give us the meat of an animal that takes exercise. Think of the deer and his luscious venison, and retract your error, Mr. Reviewer.]

Ladies' Department.—Here I catch it. What have I done? I had thought myself so much of a "ladies' man," that I should always be a favorite in this department. But it seems that I have trodden on somebody's corns—and she calls me "a crusty old codger," and "a stiff old bachelor." Only think

of that, my dear wife and pretty daughters—seven all told, besides six stout sons—a baker's dozen altogether. "Sisters," it is true I have none, but God bless you, my dear "E. S.," I have some of the sweetest cousins in the world, and this you would acknowledge *every time you looked in the glass*, if you knew who I am. But I must look up my file of the *Agriculturist* and see what it is that I have said, whereby I have offended—for I am such a careless, good natured old fellow that I have quite forgotten. Well, after all, it is not so very bad. True I said "some folks painted and spun street yarn," &c., but I did not say "E. S. used too many words:" that's poz. And so she is in the wrong for once—that's some comfort. And I did not try to *laugh* her out of her "fancy." I was *crying* instead over the folly and wickedness of modern fashionable education. And as for "E. S." being "discursive," I won't say a word. As for her determining not to read any more of the critiques of Reviewer, it is no use. She will do it. Can't help it. For she has often before had the indulgence of that big laugh over some of my writings (under another name), and will again. Thank you, my dear E. S., for that last wish. When shall I call?

Musical Bells for Cows, and musical belles for dairy maids, would give us that good old tune of butter and cheese, in its sweetest tones. I like this French notion; for, notwithstanding my objection to "piano-thumping," I love *music*. Pray Mr. Allen, get up some of these cow-bells for your warehouse. They certainly will be preferable to some of the unearthly sounding ones that we sometimes hear "over the hills and far away."

Boys' Department.—This little article and plain table about the difference of value between great and small apples, is worth more than you charge for a whole volume of the *Agriculturist*, to every man, woman, and child, that reads it. I pray you, reader, turn back and peruse it again. It is valuable. That plate is too foggy to convey any clear idea to the mind of a child. Seen by itself I never could have told what it was intended to represent. Pictures, unless made clear and expressive, do not serve to elucidate the subject, but rather to confuse. There is great fault in this respect in children's books. They often get very false notions of the appearance of an animal from a badly executed picture.

Foreign News.—I am glad to see that at the Smithfield show there was a great increase of fat cattle, and that Prince Albert and other noblemen are large breeders. How noble it will be of these men, when they send over these fat cattle to Ireland and make them all up into rich nourishing soup to save their poor brethren from the horrors of starvation. I am afraid, however, that some of these large English cattle breeders are not aware that these poor Irish could live on beef without potatoes.

Beet Root as a Substitute for Flour, is another expedient of the times to see how cheap the poor laborer can be kept alive, without trenching too close upon the starvation point. There is something revolting and horribly wrong in the fact that a few comparatively, of the whole population of Europe, are the owners of all the soil, and riot in luxurious wealth, while the great mass are half starved upon "beet-root bread" and potatoes, in

the best of seasons; and in case of loss of crop, as is the case this year, are doomed to the most horrible of all deaths for the unpardonable crime of having been born in poverty. And yet these very "Lords and gentlemen," not satisfied with this wretched condition of their own laborers, cry out for the vengeance of Heaven on us, because we have in this country a class of laborers, who as mere laborers, and taken as a whole, are the best fed, best clothed, best housed, lightest worked, and best provided for in sickness, of any class of laborers on earth; but then they are called *slaves!!!* And that word goes up into the nostrils of European aristocracy so strong, that they cannot snuff up the dying groans of their own famine stricken, starving, dying laborers. Vengeance cannot sleep for ever. And the time is fast coming when these down-trodden millions will feed their tyrant oppressors with large doses of the first dish of the Editor's table for this month. For this discovery in the art of manufacturing a substitute for gunpowder, will place destructive power ere long in many hands that never possessed it before.

And here with a dish of gun-cotton before your readers, I will close my review of this month. I hope none of them will feel disposed for anything that I have said, to apply the match, while I take a *snooze*, and blow up your, REVIEWER.

MANAGEMENT OF HONEY-BEES.—No. 10.

Symptoms of Swarming.—The symptoms of swarming, to a certainty, can never be defined. Some have pretended to define the signs, by "royal piping," &c., but it is sufficient to know that there is an excess of bees in the hive, enough to equal an ordinary swarm, to know that a swarm may be expected; but the hive in all cases must be densely crowded, before we need look for swarms. In hot sultry days, from 10 to 4 o'clock, is the usual time for issuing. As "a watched pot never boils," so a watched bee-hive never swarms. I once watched my hives, on a day that I felt morally sure that swarms would come off, and about 5 o'clock P. M. a few minutes after I had given them up for the day the cry of "*bees swarming*" came upon my ears. They rushed out like a tornado, and clustered upon a grape vine within ten feet of the hive. We may look for swarms after a storm when the sun is powerful, and the wind low. As I said before, the old queen always goes off with the *first* swarm. This is a provision of nature that calls for our admiration. The old queen is capable of *immediately* commencing laying the eggs for the young brood, whereas the young princesses await impregnation from the drones, which delays breeding for a short time. The *first* swarm with the old queen is placed entirely out of danger, as far as regards their future safety, from the want of sufficient numbers, for their general prosperity; while the second and third swarms are always in a precarious condition, from losing a portion of the best of the honey-harvest, and by the time their queen is fairly at work, in bringing forward a young brood, the season is so far gone, that nothing can be gathered by them when mature. This, then, is a provision of nature to *ensure* a perpetuity of their species.

The *best* thing for bees to cluster upon, and which

is a particular favorite with them, is a *grape-vine*. I have a very large one a few feet from my hives, and three out of four swarms cluster upon it. There should be plenty of small trees and shrubbery around every apiary. Peach-trees are very good. Where there are not sufficient small trees for them to cluster upon, there is great danger of losing the bees. The trees should be placed rather more to the north, south, and east, than to the west of hives, and some rods distant if convenient; as the bees move slowly with the wind generally, till they find a clustering place, unless there is a favorite vine near the hive, and the wind is seldom east when they swarm, as that denotes unsettled weather.

Every person keeping bees should be fully prepared on the arrival of the swarming season, with everything ready and in order. His hives should be clean, and placed where they can be used at a moment's notice. I rub a little honey on the inside of my hives a day or two before I use them, but nothing else, and I am not sure but good new hives are just as well without anything. I have hived both ways, and lost none in either case. The next thing wanted at hand is a common pine table, or any one suited to be knocked about under trees. An old blanket to spread over it is also wanted, and a few pieces of wood, say an inch thick, to rest the hive on. Then a good wing or long window-brush should be among the articles. Lastly, a bee-dress is necessary, unless you are *unstingable*. The best dress that I know of, to be prepared easily, is a cap made of musketoe-netting to cover the entire head and neck, and a piece of isinglass sewed in front to look through. With this over my head and a handkerchief tied over it around my neck, coat buttoned up to the chin, and a pair of long woollen gloves on, I care as little about the danger, as I would if they were so many flies.

There are some bees that never sting, or appear to have little or no spirit of defence, but they are your half-starved sickly things; *patented* out of life and vigor. Give me your furious dashing bees, that will strike around your ears, like the pelting of hail in a tempest, when one invades their domicils, and it is a sure guarantee of success.

In swarming have nothing to do with bells and tin pans. All the ringing and jingling in the world would never keep a swarm from going off, if it intended to go. If you have suitable shrubbery around the hives, you have nothing to fear. They *will* cluster unless driven by the wind beyond the range of trees; then there is danger. When clustered, take your table and set directly under the bees, spread your cloth, bring out your hive, put it at one end of the table, put the blocks under the side *towards the bees*, raise it one inch, shake the bees off to fall directly in front of the hive, and they will run in rapidly. Continue shaking or brushing off the bees till they all settle around the hive. When the cluster is high and difficult to get at, the branch may be sawed off, and then dislodge the bees on the table. They will run several feet to a hive without rising on the wing, and if a part only fall near the hive, those in the air will settle down with them. I have placed a table 6 or 10 feet below the swarm, and then placed a loose blanket or large bag under my ordinary blanket in order to save the fall, and succeeded very well. The most quiet

hiving is the best, and when brushing the bees off is resorted to, where they cannot be dislodged in any other way it should be done in a careful manner lest the queen should be injured. The time that bees remain in the cluster before departing, when not hived, is difficult to determine. I have always hived mine in the course of half an hour after clustering, except two swarms that came off late last season at 10 o'clock, A. M., when I was absent from home, and there was no person on the premises to attend to them. They remained quietly till 2 P. M., when a violent thunder-shower came up, the wind blowing a gale which lasted till 4 o'clock; I then came home and found them safe; not a bee had been lost from the cluster as far as I could see. From this it appears that there is no need of great haste in hiving. The bees when hived, should be protected from the sun when very hot, so they cannot suffer as much exposure to heat at such a time as when the hive is filled with comb. A bag or blanket thrown over the hive will answer the purpose. Speaking of the time that bees remain in the cluster—there are many instances in which they have commenced comb-building upon the bough clustered upon, and have remained and perished upon the spot; and I presume that half the swarms that issue would do the same, if left to themselves.

As soon as the bees are quietly hived, many of the workers will immediately sally out to the fields and return laden with honey, or materials for comb-building. Should there be no going forth and returning, you may depend upon something being wrong. Either the queen has been lost in hiving, or the bees meditate a removal.

Artificial Swarming.—The philosophy of this, as already stated, lies in the power of the bees to create a queen at pleasure from the young brood. This is a highly important discovery; by it we are enabled to counteract the effects of a lack of young sovereigns to issue with swarms. There are two modes of artificial swarming; one by *division* the other by *separation*. The method of dividing is by constructing hives in two equal parts, to come together perpendicularly, and fasten with hooks. These hives must be made very exact, in order to have the different parts all fit each other. To illustrate this matter, we will take a couple of halves and fit them together, and have a swarm in it; but before this is done, something should be done to cause the bees to construct their combs the same way that the hive divides, and this can be effected by attaching a small piece of comb to the top of the hive, inside, running as you desire it. A little bees-wax melted and traced along as you desire the comb to run, will be followed by the bees. The reason of having the comb run from front to back, is, that in separating the two parts, the combs would have to be cut, if they run transversely, which could not be easily done. A very thin partition should be placed at the top, middle, and bottom of one-half only, say two inches wide. This will prevent the bees from working a comb directly upon the dividing line, and when the halves are separated, they will open between the combs without injury. Well, we have a hive on this plan, wintered over, and ready to swarm, or at least, have bees enough to throw off one, and perhaps they are prevented, from

one of the causes before stated. Without artificial means, this stock will remain the entire season, with half a peck of idle bees clustering upon its sides, that neither work nor let others work, by stopping up the passage. We now take the hive apart quickly, and to each half attach a corresponding empty half, and let the two hives stand as near the position of the original one as possible, by moving one to the right just as far as the other is removed to the left, and stand about a foot asunder. In the course of 24 hours, we can generally ascertain in which the queen is, from the bees gathering more to one hive than to the other, and this seen, we will remove that hive in which the queen is to a new location, and then place the other in the precise location of the hive before dividing. We shall now have two good swarms, each better than the old stock, encumbered as it was with a useless mass of bees, that could not labor for want of room.

Another method, is, to cut a piece of comb from any hive that we can the most readily get at. If we have no division-hives we must turn up a hive and cut it out from below. I have a hive that admits the side to be taken off. I never could wade through the solid masses of bees in my hives to get comb from the bottom. This is a job that must not be done by a novice in such things, where the stocks are so powerful as mine are. Having cut out a piece 2 inches square, or more, containing the young brood, I take a hive and attach it therein, the same distance from the side as the bees construct their combs. I melt a few ounces of bees-wax in a shallow vessel, and while warm, I dip the comb into it (having first smoothed and squared the edges on a hot smoothing-iron), and then as quickly as possible, apply it to its location, and I soon fasten it as firmly as if built there by the bees. My next operation is to remove such a hive, as I wish to take my swarm from, to a new location, and place my hive with the piece of comb in its place. This operation should be in a fair day, about 11 o'clock, A. M. The bees on returning home go directly to the hive, and find to their surprise an empty one in the place of the one they left full. Their old hive they cannot find if removed 10 feet, and by evening we have a good-sized swarm that are compelled to take quarters in the new hive. The second and third days after the removal will continue to add to the empty hive, and the bees, finding the material to make a queen from, cluster around the comb, and in a short time they are in as good condition as if they had swarmed by natural means. The old hive is released from a useless hindrance to their labors, and both thrive well. Here we have the necessity of placing the hives so as to be easily removed from one location to another.

It appears that the new queen can only be produced from grubs of a certain age, and if we happen to get none of the right kind, we shall have a failure; but in three cases out of four, we shall succeed, unless a storm should arise soon after performing the operation, which would prevent the bees from going abroad, and consequently the new hive would not receive sufficient bees to keep the young brood warm, and a failure must ensue, as the bees would not stay an hour after their hopes are blasted in this way.

T. B. MINER.

Ravenswood, L. I., May, 1847.

LETTERS FROM THE SOUTH.—No. 9.

ATTAKAPAS, pronounced Tuck-a-paw, is a county comprising four parishes of Louisiana, bordering Bayou Teche and some of the smaller navigable streams and lakes of this part of the state. It is beyond all question the finest sugar region of this country; for while the soil is equal to any other, most of it now under cultivation is so elevated as to be entirely independent of the necessity for embankments on the river, and its security from frosts renders the cane a much more certain crop here than in any other section of the state.

The usual course in reaching it, is by ascending the Mississippi, 110 miles to Bayou Plaquemine. This is entered on the right bank of the river by an outlet so much choked up by logs and drift as not to exceed 70 or 80 feet in width, though within, it is some 200 to 300 feet wide. It is only 10 miles long, and at its lower extremity debouches into the Atchafalaya, pronounced Chaf-a-lay-a. It is entirely dry at the ebb of the river, but at high water it rushes with fearful impetuosity through its brief but headlong course, nearly reaching tide-water in 12 miles, which the Mississippi runs 200 miles to meet.

The river into which it empties, Atchafalaya (Chaf-a-lay-a), has an outlet from the Mississippi more than 100 miles higher up, and another from the Red River long before it mingles its waters with the parent stream. In our course, we passed through numerous small lakes; Grand lake, 30 miles long by 8 wide; and innumerable subdivisions of these ever-varying water courses, that hold divided empire with the land in this amphibious region.

Much of the country through which we passed, is too low for profitable cultivation, without the construction of embankments on all sides, and the use of the draining wheel; but wherever the elevation permits, clearings have been commenced, and the cane is rearing its luxuriant head where the cypress, the live oak, and other forest-trees have hitherto held universal sway.

Berwick's Bay is a beautiful expansion of water of a few miles in length, and here is the first instance in the delta of the Mississippi, that I found the land permanently elevated above the surrounding water. It is from 5 to 8 feet above the water on this bay, and Bayou Bœuf, which is probably the most beautiful of the lower bayous. It is some 10 miles long, 400 feet wide, with straight or gently varying banks, beautifully dotted, or sometimes closely lined with the live oak. Here, indeed, is the great live oak region of the South, and it is here and on the Teche, the Vermillion, and near the Gulf coast, that immense quantities have been taken within a few years for our Navy and merchantmen. The late Judge Porter asserts, that there is here enough oak to sustain a fleet for the world; but the recent encroachments on this fine timber have conclusively shown that no treasury is exhaustless, that is sufficiently rich to tempt American cupidity.

From the lower extremity of our cruise, which led us within a few miles of the Gulf, we returned through Atchafalaya, 10 miles, thence into the Teche, which we ascended 20 miles to this place. This stream is still unlike any other before coming under my notice here. It is about 300 feet wide,

and the banks gently ascend from the water's edge for some 30 or 40 rods, when they attain the highest elevation, some 25 feet above the water. They again almost insensibly decline from this ridge, till they reach the low banks of the Grand Lake and other adjoining waters from the left side, and the tide-water marshes of the Vermillion, Côte Blanche, and other bays on the right. The formation of these banks, differing so much from any other part of the delta, induces me to believe that the whole space between the ridges or highest point of these banks, once constituted an immense, and perhaps a *main* outlet of the Mississippi, from which, the waters overrunning their brims, gradually filled up the wide and fertile banks that are now the object of cultivation. The gradual working of the main stream to the eastward, led the principal channel in another direction, while the former occasional outbreaks or overflows of the Red River have since filled up the channel and sloped down the banks with that peculiar red earth, from which the river derives its name.

There are numerous fine plantations on both sides of the bayou, and nowhere in the state is it believed that more skill has directed, or greater success has attended the culture of the cane than here. This country, though comparatively new, produced in 1846, 37,144 hhds. of sugar of 1000 lbs. each.

The mode of planting is nearly the same here as elsewhere; yet great diversity everywhere prevails in its cultivation. Planters are often varying their own systems. From the close-row planting of former times, within 3 or 4 feet, some have gone to an opposite extreme of 10, 12, and even 15 feet. Between these extreme widths, corn is planted and gathered early, when the tall cane-stalks fall towards each other and form a spacious arch for the free admission of sun and air. But in general, the distance of 6 to 8 feet is observed, with 3 or 4 parallel seed-stalks in each row.

The prairies which extend over a large portion of Southwestern Louisiana, show themselves in scattered patches on the lower parts of the Teche, and though luxuriant sugar-lands, they are said to produce abundantly from plant-cane only. Many of the planters assure me, that through much of this region, those best study their interests who annually renew the plant over their entire fields. This is a large deduction from the available product, as it requires for replanting about one-sixth of the crop besides the labor.

The question of future seed is already exciting some attention; for while some contend that there is no deterioration in the cane, others affirm it, and confidently look forward to the time when they must renew the plant by fresh importations from abroad, and if possible from recent seedlings. A few enterprising planters have introduced some new specimens from Jamaica and other islands, among which may be mentioned the _____ and the red-cane cultivated here to some extent. But hitherto the ribbon has maintained its decided superiority over all others. Besides the probable future destruction of the plant, the history of all agriculture teaches us to expect, that disease or insect-enemies may hereafter make serious inroads upon a crop, that unabatedly and without scarcely any

rest or change usurps so large an area; and these are conditions which should have their full weight with intelligent minds, in inducing that close watchfulness and observation, which will lead to the earliest detection of enemies to a crop, on which millions are annually staked, and which contributes so essentially to the luxury, comfort, and healthfulness of the human family.

Besides calling on Mr. Wilson, the intelligent editor of the Planter's Banner, my limited time only permitted my visit to one plantation. This is situated 6 miles above this place, and belongs to James Porter, Esq., who inherited it from his brother, the late Judge P., formerly U. S. Senator. The estate is large, and laid out with much taste, and still retains all the venerable live oaks which have given to it the appropriate name of Oak Lawn. A large and tasteful mansion occupies the highest elevation, while in front, the ground descending to the bayou is studded with various specimens of trees and statuary. A large cistern enclosed with brick and cement, and encased with lattice-work fringed with the multiflora rose to shield it from the sun, receiving the water from the eaves in winter, and being shut off in summer, leaves the reservoir at the lowest temperature possible in this climate. But I find that even here ice is regularly brought by the steamboats from New Orleans, a distance of nearly 300 miles by the route taken. Thus the Yankees, with their accustomed shrewdness, are indirectly driving a brisk trade in exchanging the congelations of the wintry north for the crystallizations of the sunny south. A brick dairy-room ensconced beneath the dense foliage of several large drooping oaks, and as perfectly barricaded against the admission of heat as possible, was filled with numerous vessels of *Ayrshire* milk, cream, and butter; and a large ornamental and vegetable garden closely adjoining, furnishes all that is essential to gratify the tastes and senses.

Mr. Porter and his late brother have exhibited a taste in their selections of stock, seldom manifested among Louisiana planters. Each has imported the Short-Horn, Devon, and *Ayrshire* Cattle; the latter especially in large numbers, and directly from Scotland. The substitution of the best milking Devons, while affording an equal value in milk, would furnish some of the choicest working animals in the world.

There was a large flock of Southdowns, derived from direct importations, and a better lot of wethers I have never met than are grazing on the premises. Mr. Porter's taste has also led him to the importation and breeding of some of the best English blood horses. Among these, Harkforward is conspicuous, a full brother of Harkaway, so distinguished on the English turf, 16½ hands high and every way well formed. From him he has been breeding for three years, and several of his thorough bred colts which I saw there, now two years old, already stand over 15 hands high.

I observed here that manufacturing, among the supernumerary hands, was an object of attention. Both wool and cotton, the products of the plantations, are here prepared, carded, spun, and woven into substantial fabrics for domestic use. I saw here the most comprehensive yet simple little cotton machine that has yet been constructed, consisting

of a compact frame some 4 or 5 feet long by 1½ wide, with half a dozen spindles at one end and a miniature gin at the other. It is easily put in motion with a crank, even by a child; and being supplied with the cotton as gathered in the field, it is ginned, cleaned, carded, and spun at one operation.

One improvement has been here successfully carried out which I have never seen practised elsewhere. It consists of two immense sheds connected with the grinding-house by a railway elevated as high as the eaves of the buildings, on which cars are placed containing the bagasse as received from the rollers, and run into the sheds where it is tipped out and allowed to dry. It thus furnishes at least two-thirds of the fuel used for granulating the cane-juice. Franklin is the seat of justice for the Parish of St. Mary, and is a port of entry. Large numbers of vessels of light draught annually come to this bayou and load with sugar and molasses for the north, bringing manufactured articles, provisions, coal, and other supplies in exchange.

Throughout the southern part of the county, sugar constitutes almost the entire product; but in the north, through the parishes of Lafayette, Vermillion, and the northern half of St. Martin's, cotton, corn, and cattle are considerable articles of export. Opelousas, still further to the northwest, grazes innumerable herds of cattle on her immense prairies; some have herds of more than 5000. The cattle there, like those in California and the pampas of South America, glean their own subsistence exclusively from the natural herbage of the fields. In seasons of severity, great mortality among the herd occurs. During the last winter, from deficiency of food and inclemency of the weather, one herdsman alone lost 500 head—more than half his whole number.

There are some peculiar features in this region, not before adverted to. The bottom of Lake Chicot, a small sheet of water near Grand Lake, and through which we passed, has apparently subsided; and the trunks of large cypress and other trees that only grow on firm land, which is mostly dry throughout the year, are to be found here in great numbers, with their roots many feet beneath the lowest water mark. They are still erect, though decaying and rapidly crumbling down. Perry Lake, in Caddo parish and some others, afford similar examples.

Spanish Lake near Newtown, in St. Martin's, some 30 miles in a northerly direction from this place, containing about three square miles of surface, is overgrown with thick moss and other compact vegetation to the depth of a foot or more for one-third of its area. Most of this may be travelled over in safety; and sportsmen frequently cut through the surface and catch all the varieties of fish to be found in those waters, apparently excavating them like ore.

Four large mounds intermixed with large quantities of skulls formerly occupied the right bank of Berwick's Bay. They were regularly placed at the cardinal points, and one still maintains an elevation 30 feet above the surrounding level, and has become the burial ground for the proprietor's family. Skeletons, specimens of rude pottery, and other remains of a former race, long since passed into oblivion, are said to be found here.

R. L. ALLEN.

Franklin, La., May 26, 1847.

DESIGN FOR A FARM-HOUSE.

I REGRET very much that the whole plan of my Farm-House was not given in the June number of the *Agriculturist*. The basement story is entirely omitted. This is a very convenient part of a farm-dwelling, and I consider it, as I suppose all practical housewives do, of primary importance. As I had given some explanation respecting its construction, the reader would very naturally suppose I had stupidly forgotten it in the design. (a)

It contained, besides an undivided cellar in front (of 20 by 30 feet), a spacious light and airy kitchen, opening into the wood-house, a large store-room at the foot of the stairs, closet, oven, arch, and cistern, a hot-air chamber, storage-room for wood and ashes, sink, and drain.

The sink, instead of being in the upper kitchen or dining-room, where there was only sufficient space for a door, was in the basement directly beneath, with a conductor for bringing water from the cistern. If a sink should be needed in the upper kitchen, the place for it would be over the drain, given in the design.

A door between the sitting-room and library is also omitted, which would be very important, if this room was used either as a library or part of the hall.

MRS. JAMES M. ELLIS.

Onondaga Hill, June 14th, 1847.

(a) We much regret these omissions, but the fault does not rest with us, as we copied verbatim from the *Transactions of the State Agricultural Society*.

HOW TO PRESERVE GREEN CURRANTS AND GOOSEBERRIES FRESH.—M. S. Wilson, of Lenox, Mass., it is stated, preserves green currants in dry glass bottles, corked and sealed tight, placing them in a cool cellar. In this manner, they may be preserved for a great length of time, so that you may be able to have pies on your table at all seasons of the year. Gooseberries may be preserved in the same way.

CHOICE OF TREES AND SHRUBS FOR CITIES AND RURAL TOWNS.

In ornamenting cities, villages, or rural towns, as well as public highways, farms, private grounds, &c., it is a great desideratum to find a class of trees and shrubs that will rapidly attain the desired form and size, afford a healthful and agreeable shade, and are free from the attacks of insects or from accidents of any kind, and at the same time will tend to beautify the scenery, and ultimately prove useful for fuel or construction in the arts. With the great variety of species and varieties before us, whether in a wild state or under cultivation, one might be led to suppose it an easy matter to select from among them, all that could be desired; yet, when we take all their points or qualities into account, how few there are free from objection. One class seemingly answer the desired end for the first ten or fifteen years, and then, by exuberance of growth, become too much expanded for the situations they occupy, and unless their beauty is destroyed by pruning, they grow top-heavy, and are finally uprooted or shattered by the winds; other kinds appear to flourish with vigor during the first few years, assuming a variety of graceful and picturesque forms, and then are checked in their growth,

become sickly, or stag-headed, and unsightly to the eye; while a third class, although they may possess satisfactory qualities in most other respects, are attacked by noxious and disgusting insects during certain seasons of the year, and are often greatly injured thereby, if not totally destroyed. Hence the difficulties our early tree-planters labored under, who groped along in the dark, in many instances, and we need not be surprised, nor should we attach any blame to their praiseworthy efforts, even if they have not been the most choice in their selections, and the most judicious in their management.

Without entering in detail into the monotony of that large "sylvan park," the Boston Common, with a variety of soil and surface that would admit of one of the finest arboretums in the world, or to dwell upon the seventeen other "cities of elms," in other parts of New England, or upon the long, formal rows of exotics in our national metropolis, where, before all other places, we might be led to expect a conspicuous display of indigenous trees, I will pass to Brooklyn and New York. These two cities probably contain a greater number of species of cultivated trees, native and foreign, than is occupied by the same extent of ground in any part of the Union. Hence it may be inferred, that in planting streets, out of so large a number of trees, an injudicious choice, in many cases, would be made, which would unavoidably be attended with consequent evils. The trees of this description, which most predominate, are the weeping willow, the button-wood (sycamore), the European linden, the American and European elms, the silver-leaved maple, the catalpa, the three-thorned gleditschia, the tulip-tree (whitewood), the horse-chesnut, the paper-mulberry, and the abele. None of these trees, nor any others of equal dimensions, should ever be suffered to attain one-half of their maximum size, within fifty feet of any human dwelling, either in country or town. These trees, to be sure, when young, like striplings, shoot into graceful forms, with a lightness and an airiness about them, that is pleasing; but when they expand into their natural proportions, and attain their full growth, they become too large for the situations they were intended to occupy, and by the fullness of their foliage, often produce an unhealthy shade. For we have every reason to believe that many residences, which naturally would have been salubrious under other circumstances, are rendered damp, gloomy, and unhealthy, during certain periods of the year, by the superabundance of trees and shrubbery, growing in their immediate proximity; and besides, when thus planted, the leaves of several of the afore-named trees, serve as the food of myriads of millions of insects, or their larvæ, which so often infest the rooms of our houses, and annoy passengers in the streets. What I have stated above is plainly illustrated in Fig. 44, next page, by the two largest trees, the like of which repeatedly occur in Brooklyn, and even instances might be cited where entire blocks of houses are dampened, darkened, and overshadowed by tall forest-trees, which are liable at any season to be uprooted, or shattered into fragments by the violence of the wind. The pruning of these trees, in many cases, has been entirely neglected, while in others the operation has been carried too far. It has not un-

frequently happened, that, when the tops of the trees became sufficiently expanded to darken the houses, or intercept the view, in order to remedy the evil, the whole of the lower branches have been cut away, leaving the upper ones to form an unnatural and often illshapen head.

The streets of the cities and larger towns of this State, seldom exceed three or four rods in width, and consequently will not admit of the growth of trees much more than fifteen or twenty feet in height, without more or less injury, or inconvenience, to the neighboring habitations. In several cities of Europe, the planting of trees and shrubs in streets is regulated by law, and in some cases, it

planted with the same kind of trees as the streets of these cities, with but little regard to the grouping of them into pleasing and picturesque assemblages, and the selection is often bad, the trees in some cases being totally unfitted to the soil in which they grow. For instance, the frequent occurrence of the weeping willow, on the Battery, where, for reasons already stated, they are annually uprooted by tempestuous winds. All of the parks, as well as pleasure-grounds throughout this State, doubtless would admit of the successful cultivation of at least one hundred kinds of trees, which if tastefully grouped and contrasted, would lead to a point of human refinement unsurpassed by any collection

in the country, even Washington square, in Philadelphia, with its groups of beautiful bur-oaks (*Quercus macrocarpa*), pin-oaks (*Quercus palustris*), catalpas, silver-leaved maples, negundos, Kentucky coffee-trees, liriodendrons, and a host of other trees, from two to three yards in girth.

It is much to be regretted, that the plan proposed some twenty years since by the late M. Parmentier, of Brooklyn, for planting the Park, in New York,

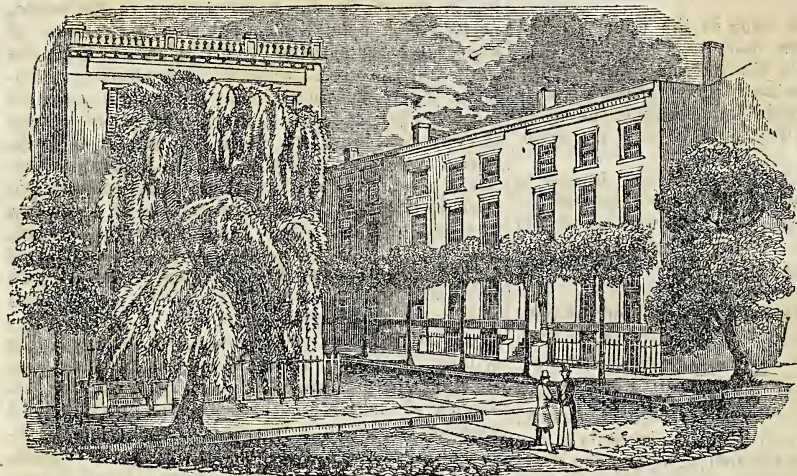


FIG. 44.

is required that they be of such a character as will not reach above the lower parts of the windows of the second stories, as denoted on the right-hand side of fig. 44. The trees and shrubs that would answer such a purpose in the cities of New York, with judicious pruning and lopping, are the red-flowered maple, the sugar-maple, the American white beech, the American red beech, the Osage orange, the June berry, and the flowery dog-wood. The latter, or some allied species, will flourish in any part of the United States, and can be removed, if taken up with care, of almost any size, at which it will grow. In order to effect this, it is only necessary to take up a ball, or mass of earth, adhering to the roots, and plant the tree at the same depth in the ground, and with the same side of the trunk towards the south, as it originally grew in the nursery, or in the woods.

In selecting any of the above-named trees, it would be advisable to obtain those grown in nurseries in the immediate vicinity of the sites where they are intended to remain; and such as grow naturally to the greatest perfection in the neighboring forests should be preferred, where the soil and climate are essentially the same.

A few words on the parks and public squares, in Brooklyn and New York, seem to demand a notice, as not a single species of oak, beech, birch, American ash, walnut, negundo, dog-wood, holly, and numerous other native trees and shrubs, is to be found in one of them. In general, they are

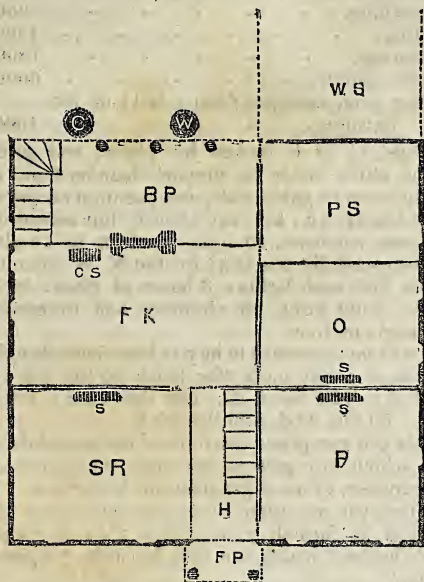
was not adopted, and every species of American tree, that could possibly be made to grow, placed there; the magnificence of which could only be equalled by a grand national arboretum, in the city of Washington, where almost every native tree would live. But this we cannot reasonably expect to be done; for, in the progress of civilization in all countries, there are many much more important things to be considered than the culture of trees and shrubs.—[Condensed from the Transactions of the N. Y. State Agricultural Society, for 1846.]

A CHEAP FARM-HOUSE.

BEING laid up in ordinary during some of the cold weather of this month (January, 1847), I have devoted a portion of the time to contriving another plan of a cheap *Farm-House*. I send you a ground plan and elevations of two fronts, which I hope you may consider sufficiently interesting to present to your readers:

My object has been to present another plan that the poor man can follow; building a part at a time and always having a perfect house, whether completed upon the entire plan or only a part of it. This I conceive to be the greatest object—at least for that class of your readers who are unable to purchase expensive works and pay a skilful architect for a drawing. The entire ground-plan of this house is 40 ft. square; and for one who can afford it and needs the upper rooms, I think it a good one

to build the superstructure the full size. You will observe that the kitchen is a real *farmers' kitchen*. There is a space for the "long table" with a bench next the partition of the sitting-room. The back porch in summer will make a pleasant eating-room, unless indeed the "gude wife" prefers to move her cooking-stove out there in warm weather. The back stairs will be found convenient, but may be dispensed with. So may the door in the south front, which opens into the porch under the stairs. But it adds to the looks outside.



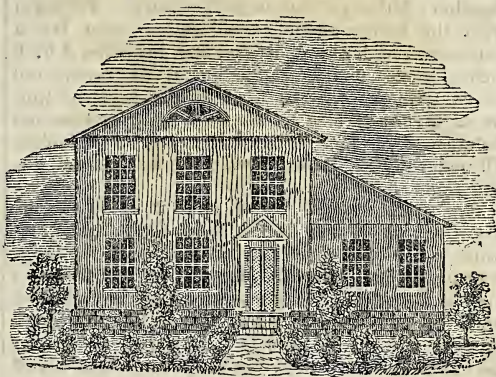
EXPLANATION OF GROUND PLAN.—FIG. 45.

F. K.	Farmers' Kitchen,	15 by 25 feet.
S. R.	Sitting-Room,	15 by 17 "
H.	Hall and Front Stairway,	8 by 15 "
P.	Parlor,	15 by 15 "
O.	Old Folks' Bedroom,	12 by 15 "
P. S.	Pantry and Store-Room,	13 by 15 "
W. S.	Woodshed,	15 by 20 "
F. P.	Front Porch,	5 by 8 "
B. P.	Back Porch and Stairway,	10 by 25 "
S.	Stoves.	
C. S.	Kitchen Stove.	
W.	Well.	

The fire-place in the back porch will be found useful. The space between the columns of the porch may be closed up in winter if desired. The pantry I have made of a liberal size, as it is usually the most crowded room in the house; while the parlor, which is the least used, does not require to be large. There is room for a closet under the front stairs, opening to the kitchen, unless required for cellar stairs. Another shallow one may be made in the wall between the kitchen and bedroom. The stove-pipe from the sitting-room is designed to cross the kitchen, or go up through the chambers and so into the chimney. As the chamber is 25 by 30 feet, it may be divided into four bedrooms of a good size.

Now I must describe the manner of building "a piece at a time." In the first place put up the two-story part, which is 25 by 30 ft. with 18 ft. posts.

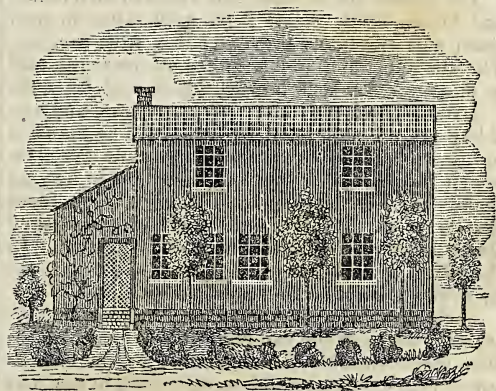
The north side, then, must be finished in a manner designed for the inside of the parlor and bedroom, afterwards to be added, which is to be 15 by 30 ft. with 8 ft. posts, and lean-to roof. To do this, lay off the door-ways as in the plan; lath up the studs and put on one coarse coat of plastering, and while still moist put on siding with small nails, not driven up, so that they can be taken off again without splitting. Serve the backside of the kitchen in the same way; or, if you are sure that you can put up the lean-to additions within a year or two, the



EAST ELEVATION.—FIG. 46.

plastering will stand without being protected by siding. Put up the back porch first—that is most needed—the pantry next—extending it to the west far enough to make a good large woodshed.

The next addition will be the parlor and bedroom, unless, indeed, you have put up the latter the year previous, with the pantry and woodshed. The parlor being the room least needed should be the last one built.



SOUTH ELEVATION.—FIG. 47.

If the whole of the exterior could be put up and enclosed, at first, if not finished, it would be the most economical, *if* (mind the *if*) the capital, to build with, will allow of it. But, I repeat, the main object of this design is to enable the man of small capital to build at first and from year to year according to his means.

If it is objected that the lean-to additions detract from the beauty of the front, I have only to say, that the farmer who contrives his house more for

mere outside show than inside convenience and comfort, will make a slave of his wife; but nature, or a bad education, will have made her a fool for a husband.

This plan of building is also particularly designed for what is well known about Chicago as a "balloon frame," but which, as I presume your eastern readers do not understand, I will describe, for it is a great saving of expense.

There is not a tenon nor mortice in the whole frame; except that sometimes the sills are framed together; but even that is unnecessary. To begin with the house under consideration—first lay a foundation of brick or stone, and lay sills, 3 by 6 inches, locked or halved together at the corners and nailed. On these, level the sleepers, made of timber of the same size as the sills, set edgewise and shouldered one inch to fit on the ends and a middle sill under the partition between the kitchen and sitting-room.

The studs should be of oak 2 by 6 inches. Saw them off square at the ends, 18 ft. long—cut gains six inches wide, one inch deep in the inner edge of the end studs 9½ ft. from lower end to upper edge of the gain. On the sides a strip is nailed on studs to nail ends of floor boards to. In these gains a strip 1½ in. by 6 is to be nailed to support the chamber-floor joists. A strip same size nailed on top of studs forms the plates. A like strip should also be nailed on the end studs.

The sleepers should be 32 inches apart; the studs 16, and the joists 32 inches, having a "false joist" between each pair to lath to.

The beams 32 inches apart, should project at least 6 inches over the plate and lock on with a gain two inches deep with a stout spike driven up through the plate to hold them down. Also spike the end strip to the beams.

The rafters are bevelled and nailed to each beam; and braces firmly nailed from each rafter to each beam will effectually prevent either from sagging. The studding should be sheathed all over with half or three-quarter inch boards, which will be better if feather-edged together. When these and the siding are all nailed on, the frame will be found to be as stiff and in every way as good as one upon which the carpenter has expended \$50 in hewing timber and beating mortices, and framing braces that never do any good until after the great heavy frame begins to lean, and then it is too late. In the place of this house, however, the "lean-to" upon two sides will form good braces.

Such is a brief outline of a "balloon frame," which I am confident can be built better and cheaper than the old-fashioned frame, at the general comparative prices of timber, labor, and nails, in any part of the United States.

Of course there are some kinds of buildings that require great strength of frame; but a common dwelling does not, neither do a great many of the out-buildings.

I have thought advisable to annex a bill of the principal materials it would be necessary to provide for building the first or two-story part of this house. The calculation is based upon plastering the north and west sides, preparatory to the additions. I have not estimated any floor for garret. The other floors

and siding I allow one-fourth extra for waste and working. You will then require—

2 sills,	3 by 6 in.	each 30 ft. long.
3 "	" 6 "	" 25 "
20 sleepers,	3 " 6 "	" 15 "
20 joists,	2½ " 6 "	" 15 "
80 studs,	2 " 6 "	" 18 "
13 beams,	2½ " 6 "	" 26 "
26 rafters,	2 " 5 "	" 13 "
20 studs,	2 " 4 "	" 9½ "
Roof boards,	- - - -	750
Sheathing,	- - - -	1250
Siding,	- - - -	1500
Flooring,	- - - -	1800
Lath (about),	- - - -	6000
Clear pine, assorted, from ½ to 1½ in. for finishing,	- - - -	1000

Strips 1½ to 6 inches for plates, and girders around studs inside to support chamber floor, and for lap studs in gable ends, and partition strips, and rafter-braces, &c., &c., say 1000 ft fair measure.

Eleven windows, 20 lights each, 8 by 10 glass, and two six-light windows for the N. W. chamber, makes 232 sash lights; 3 boxes of glass; 16 lbs. putty; 5000 brick for chimney and foundation; 10 barrels of lime.

It will be necessary to buy at least 8000 shingles; 100 lbs. 3 penny nails (for lath); 50 lbs. 4 d.; 50 lbs. 6 d.; 100 lbs. 8 d.; 100 lbs. 10 d.; 50 lbs. 12 d.; 50 lbs. 20 d.; 20 lbs. 40 d.

This bill comprises the bulk of the materials, and from which any person can make a calculation of the expense, or an approximation towards it.

Whenever my other avocations will admit of it, I intend to furnish you with a plan of "a poor man's house," which can also be built "a piece at a time."

I look upon plans of farm-buildings as the most valuable part of a farmer's journal. For it is a certain fact that nature has not given the faculty to one-half of mankind, to form the plan of the buildings they desire to occupy. SOLON ROBINSON.

Crown Point Lake C. H., Indiana.

PRESERVATION OF PEACH-TREES FROM THE ATTACK OF BORERS.

As the best method of preventing the destruction of peach-trees by borers is a matter of public interest, in different sections of the country, I will give my plan of preventing their ravages in young trees, and for expelling them from old ones.

I ascertained several years ago, that sulphur is more offensive to most kinds of insects than any other substance with which I was acquainted. When applied to fruit-trees, it lasts longer and is more permanent in its operation than anything I have tried. Peach-trees are often attacked by the worm in the nursery, which may easily be known by a blackish appearance, with exuded gum on the stem near the ground, and on the roots. When the young trees are taken from the nursery, for transplanting, they must carefully be examined and the worms removed with a long brad-awl, or a knife. Then rub over their upper roots and about six inches of the lower part of their stems with a mixture of any common oil or grease and the flour of sul-

phur, well incorporated by stirring. Sprinkle a table-spoonful of clear sulphur in the bottom of the holes, and then plant the trees in the usual way.

In order to expel the borer from old trees, I take a gimlet, or brace and bit, and bore three or four small holes in each tree near the ground, and fill them with flour of sulphur, with the aid of a quill. I also remove the earth from about the roots of the trees, as far as they are attacked by the worms; then apply the mixture of oil and sulphur as directed for young trees, replace the earth, and the process is complete.

Both of these modes are cheap, easy in their application, and as far as I have tried them, have proved effectual.

B. F. WARD.

Butts Co., Ga., May 8, 1847.

ROAD MANURE.

TURNPIKES, and roads in general, are formed by running a plow along their sides, and after the earth is loosened by several furrows, it is scraped into the middle of the highway by oxen or horse-power, leaving a ditch or gutter at each side two or three feet wide and from one to two feet deep. These ditches are often completely filled up with fine, rich mould (commonly black), which is highly surcharged with the very essence of the road and of the adjacent grounds, having been washed thither by melting snows and teeming showers of rain. If the gutters are level, or only of a gentle descent, they will require no attention in order to retain the manure; but if the water flows through them with a rapid current, it will be necessary to make small dams across them every few rods to prevent the escape of the sediment that drags along their bottoms.

There is an objection, however, for the farmer to interfere in this manner with any public highway, as it would render him liable to prosecution and the payment of all damages which might accrue. If he could obtain permission, from proper authority, to deposit an equal volume of good gravel for every load of manure he might take away, the difficulty would be removed, and he could enrich his land at his own expense.

J. S.

Sussex Co., N. J., May 7th, 1847.

HOW TO MAKE SUGAR OF MILK.—The mode of preparing this salt by the Swiss cowherds of the Alps, is, first to separate all the caseous and oily parts of the milk until nothing is left but pure whey. This is clarified by boiling until it is reduced to about one-fourth of its bulk; then it is poured into wooden or earthen pans, and put away in some place to cool. In a short time the saccharine or sugary particles crystallize, the watery part is gently and slowly poured off, and the sugar is placed on sheets of brown paper to dry. When taken in moderate quantities, this salt is considered by the Swiss doctors as a most excellent detergent to purify the blood, and a radical cure for the most inveterate cutaneous complaints.

SATURATION OF LIQUIDS.—No liquid can combine with, nor take up, more than a certain quantity of any solid or æriform body; the point at which this action ceases is called *saturation*. Thus, water will only take up a certain known weight of alum, sugar, salt, &c.

A BOG-CUTTER.

I SEND you herewith a drawing of the bog-cutter which I described to you, and which has been used with great success in this neighborhood. The drawings, I believe, are sufficient to explain to a mechanic its structure, but I subjoin a few explanations.

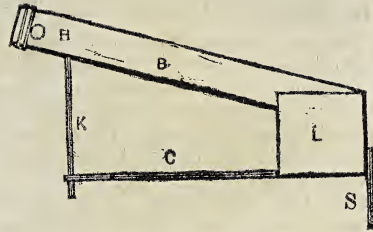


FIG. 48.

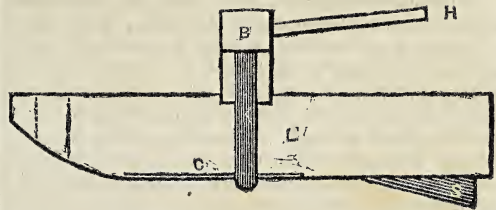


FIG. 49.

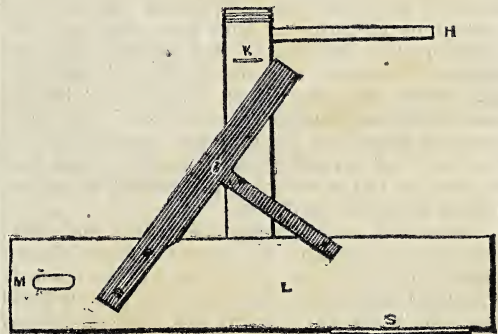


FIG. 50.

L, is a solid beam of oak 14 inches square, and curved at one end like a sled-runner.

B, is a solid beam of oak 6 inches square, to hold the knife K, which acts as a plow-coulter, and with the knife S, on the outer edge of the beam I, cuts the bog on both sides, so as to enable the knife C, to pare and lift it.

H, is a handle of stiff wood, two feet long, let into B, by bearing on, or lifting which, the machine is made to work deep, or is relieved of its burden of bogs.

In fig. 50, the letter M, represents a hole bored or

morticed through the beam for a chain, to which the team is hitched, and from two to three yoke of oxen are necessary according to the nature of the bog.

One stout man, after some practice, may hold the machine steady, and will work it fast enough to keep two men busy in cleaning away the bogs after him.

E. JACKSON.

Middletown, Ct., May 19th, 1847.

Mr. Norton's Letters.—No. 6.

WITH a view to the gratification of your cheese-making subscribers, I send you this month a translation of directions for the manufacture of the celebrated *Gouda cheese*, considered by the Dutch themselves as their choicest variety. These directions were published by some of the largest dealers in cheese of Rotterdam.

Experience has shown that, in the following summer, and in accordance with the accompanying precautions, cheese can be made which has neither bitterness, toughness, nor want of solidity, defects very common, and which cannot be too carefully avoided.

In the commencement, care should be taken that the sun does not shine upon the milk; the vessels in which it is received should be provided with covers. As soon as the milk is brought to the house, it should be strained into a tub, and the rennet added, the tub then to be carefully covered so as to retain as much as possible of the natural heat of the milk. Three or four hours after the addition of rennet to the milk it must be strained, and the curd slowly broken with a wooden instrument; this is uninterruptedly continued until the curd has become fine and separated from the whey. After this it is left to settle four hours, to separate as much more of the whey as possible. It is now kneaded with the hand, separating still another portion of the whey. After this working it is placed in the cheese-press and worked anew to render it fine again, and also by this it is strongly packed into the press, which, being full, a cloth is laid over it, and the cheese turned over. The bottom now turned up, being broken, is smoothed by the hand, and covered by the follower. Upon this follower is laid a weight corresponding to the intended weight of the cheese.

The cheese must be turned every hour, and after three hours taken from the press, the first cloth replaced with a dry one; it is then again covered with the follower and the weight laid upon it doubled, care being had that the side that was before under is now above; the cheese is pressed nine hours by this weight, and must be turned once in three hours.

At the end of nine hours the cheese is again taken from the press, the cloth is removed, and it is placed in the *pickle-float*; the part floating above the pickle is covered with coarse salt to the thickness of three guldens (about the same as three dollars in thickness). This pickle must not be stronger than fifteen degrees of Baumé; if it is used stronger than this it is liable to crack the cheese.

The cheese remains in this pickle twenty-four hours, and during this time is turned twice, always

taking care that it is covered with salt. It is now placed in a pickle of twenty degrees Baumé, in which it is turned once in twelve hours, always being covered with salt. At the expiration of eight or nine days, it is taken from the pickle and washed, after which it is placed on the stand or shelves, and should be turned at least once a day.

All of the above directions have reference to cheeses weighing ten Dutch pounds (equal to about 21 lbs. English).

Principal rules to be observed.

1. Never to employ warm water or whey in the working of the cheese.

2. The pickle for the rennet as well as for the *floating vessel*, must not be stronger than fifteen degrees, and for the pickling tub must always be twenty degrees of Baumé.

3. The bottom of the cheese press should be as flat as possible.

4. Whatever the weight of the cheese, the curd must be finely divided, and the whey perfectly pressed or wrung out.

5. In warm weather the cheese requires more salt, and is thus more quickly salted. Seven or eight days in summer, when the air is warm, are equal to ten or twelve days in cold weather or in autumn.

Directions for the Preparation of Dutch Rennet.—For twenty-five lebbber (the Dutch name for the calves' stomachs), take seven Netherlands pounds of pickle of fifteen degrees Baumé. The lebben must be cut in bits of the length of a half finger. The pot containing it should be well covered, and set in a warm place. After ten days the solution becomes good, but if allowed to stand twenty days it should then be strained through a muslin cloth, or a very fine sieve, and preserved in air-tight bottles. Not more than two table-spoonfuls of this are necessary for ten Netherlands pounds of cheese.

This rennet should thoroughly curdle the milk in three-fourths of an hour; if sooner than that, it is too strong, and if longer, a little more must be added to assist its operation.

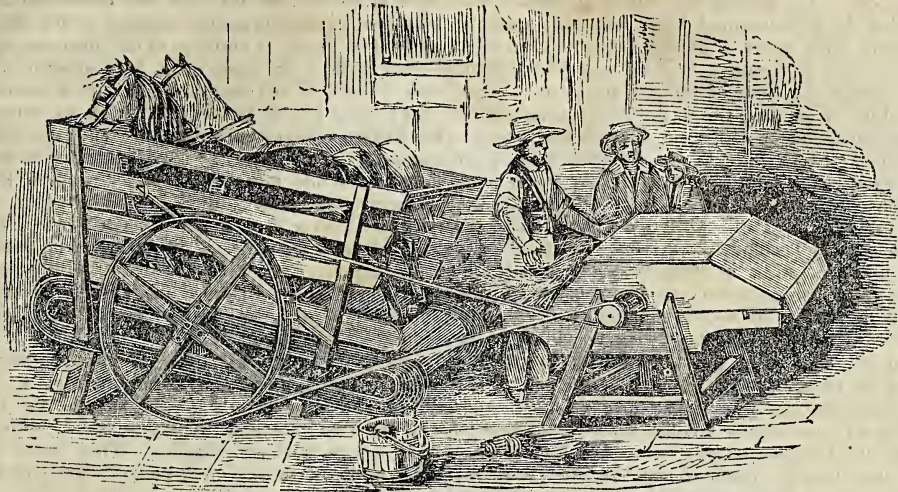
Reference is made above to fifteen and twenty degrees Baumé. This is an instrument contrived by M. Baumé for measuring the strength of solutions by their density. I have not his tables by me, but as nearly as I can calculate that pickle of twenty degrees, referred to, contains about 21 per cent. of salt, and is therefore very strong. In one of the tables given by Berzelius it is stated that a saturated solution of common salt contains 29 per cent. of salt.

JOHN P. NORTON.

Utrecht, Holland, May 6th, 1847.

ZINC PANS INJURIOUS TO CREAM.—Zinc vessels or pans for cream have of late been extensively used in some parts of Europe under the impression that they favored the accumulation of a large quantity of cream. It has been recently ascertained, however, that the presence of the milk, and especially after it has become sour, has the effect of dissolving the metal, a part of which is held in solution, and another portion is converted into salts. In either condition this is a most deleterious compound, and the honest dairyman will not, after this discovery, permit zinc pans to be used on his premises.

WHEELER'S HORSE-POWER AND THRASHER.



TWO-HORSE POWER.—FIG. 52.

THE machine, as delineated in Fig. 51, is adapted to the use of one horse, which, with the aid of two men and a boy, can thrash at the rate of 50 to 75 bushels of wheat, or 75 to 100 bushels of oats, in a day. If only a single horse be used, a change of horses should be made every two or three hours, as it is very tiresome to their legs to work it. The machine can readily be fitted for working two horses abreast, by increasing the width of the rotary platform as in Fig. 52, on which they stand, and increasing the length of the main shaft. The simple contrivance called the "shaker," or "separator," which is attached to the thrasher, saves much labor in winnowing the grain, besides leaving it without waste, entirely free from straw.

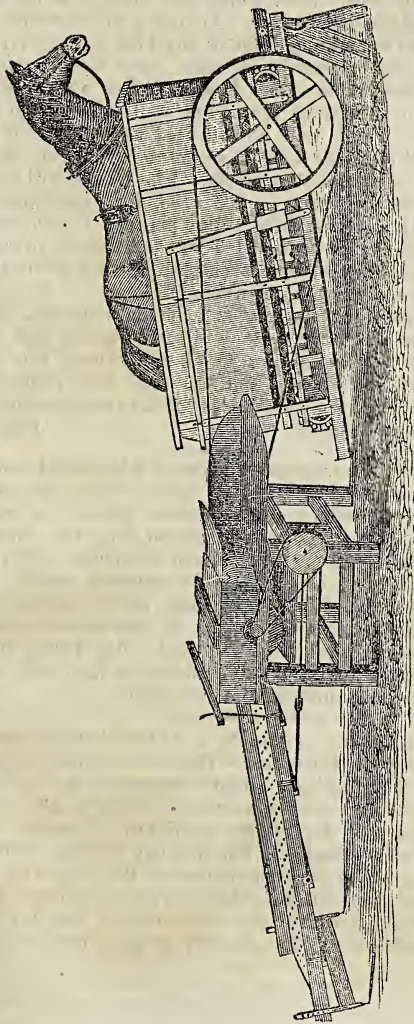
This horse-power is easily applied to various labor-saving machines, and is the kind mostly used at the New England railroad stations for sawing wood. The cost of the whole apparatus, ready for thrashing, is \$110; or for the different parts as follows:—\$75 for the horse-power, \$28 for the thrasher, and \$7 for the separator.

MODE OF KEEPING MILK TO PREVENT SOURING.

IN passing a store a short time since in rather an obscure part of the city, and seeing a large number of milk-cans standing about the premises, I walked in and learned the following particulars from a fine healthy woman, of middle age, who, with her daughter, a buxom girl of about sixteen, was standing behind the counter waiting upon customers:—They sell the milk of 300 cows, principally consigned to them from Orange county by different farmers, which brings 3 cents a quart at wholesale, and 4 cents retail. Each can is marked with the initials of the farmer from whom the milk is received, in order to avoid confusion when they are exchanged for return.

In answer to some inquiries about sour milk, I was informed that there is a great difference in that brought by different individuals. Some of that which is brought the greatest distance keeps the

HORSE-POWER WITH SEPARATOR.—FIG. 51.



longest; and in one instance they had never lost a single can. On asking the reason of this, I was told that the milkers must have filled the cans of cold milk with warm milk directly from the cows, which causes it to sour. "This," said the woman, "is always the effect of mixing the two." Another cause of souring, she said, "is in consequence of not immediately depriving the milk of its animal heat. Some farmers set the cans of milk in cold water, and there leave them. The water soon becomes warm, and is but little better than if they were not put in at all. Others draw off the water as soon as it becomes warm, and replace it with cold, until the milk is sufficiently cooled; while others place their cans in a cold spring or vat of running water, where it soon becomes perfectly cold. But the best way," said she, "for I was brought up on a dairy-farm, is to put the milk in large pans placed in running water, which will cause it to cool immediately; and then pour it into the cans, leaving off the lids or covers, for all the gases to escape, until they are ready to convey to market."

By this time the husband came in, and I turned my attention to him, as his wife and daughter were busily engaged in waiting upon their customers. On asking him whether some lots of milk from the same cows do not make more butter at one time than another, he replied that he had churned through the hot weather with his own hands; that he had measured the milk and weighed the butter produced from it; and that he had found it would require from 11 to 20 quarts of milk, brought from the same farm, to make a pound of butter, but could give no satisfactory reason why it was so.

New York, June 1st, 1847. A TRAVELLER.

PLANTING CUTTINGS IN VINEYARDS.

In the report of the proceedings of the New York Farmers' Club, in the May number of the *Agriculturist*, I perceive some remarks by Dr. Underhill, which seem to contain rather a sweeping denunciation of the article on "Planting the Isabella Grape Vine," published in the February number of the same journal. Dr. Underhill, I think, very deservedly enjoys a high reputation as a successful grower of grapes, and his opinion is entitled to considerable weight, which I cheerfully concede; but as he is not infallible even in regard to the grape, and as his opinion on this subject passes with many for "law and gospel," it seems to me unreasonable, that his mere assertion, particularly when it conflicts with the experience of hundreds of others, should be given to the world without some qualification.

That the good-natured Doctor means well, and believes what he says, I am perfectly willing to admit; but in the heat of debate his enthusiasm often carries him much further than he would be willing to go in his cooler moments, and he is the last man to recede from a position he has once taken. It is one of the Doctor's foibles that he believes he has discovered the only true method of cultivating the grape, and that all others are wrong; and consequently he denounces in strong terms every system which is not a fac-simile of his own. I have read your article with much care, and though my own views on the subject differ a little from yours, I must say that I consider your remarks, on the whole,

as being very judicious and much to the purpose. Now I, for one, should like the Doctor to tell us *why* your directions are not adapted to this country. His naked denial is nothing to the purpose, unless he can back it by some good and substantial reasons. But I do not design to enter into a discussion here; what I more particularly wish to notice, is, the Doctor's broad assertion that cuttings will not succeed in the vineyard. Now I venture to assert, that I have had more experience than the Doctor himself in striking cuttings in this country, and I take upon myself to say that, as a general thing, they *will* succeed; and a person who understands their nature, with ordinary care, will generally lose as few in the vineyard as the Doctor frequently does in his nursery. If he had said the practice would not succeed on Croton Point, he would have said a fact within his own experience, and one which no one would have felt inclined to doubt who had ever seen that place; for the soil of his vineyards is little else than pure sand, which the wind plays with at pleasure. This statement is made on the authority of a person who is perfectly familiar with Croton Point, and there is no reason to doubt its correctness. In such a soil it would be difficult to make cuttings of any kind strike, except in a wet season, and then they would strike nowhere better. The Doctor makes a great mistake in supposing that what will not succeed on Croton Point will not succeed anywhere. It is absurd to make Croton Point the standard, as it were, of the whole country. The Doctor will have to yield the point in this case, for experience is strongly against him. But perhaps I have said enough for the present. I will just remark in conclusion, that there may naturally be a difference of opinion as to the relative advantages of striking cuttings in the nursery and in the vineyard, and this subject I am quite willing to discuss with the Doctor. I leave him to choose which side he pleases. The fact, that cuttings will generally strike in the vineyard under ordinary circumstances, seems past dispute.

PAX.

IMPROVED CANDLE-WICKS.—An improved candle may be made by steeping cotton wicks in lime-water, in which a considerable quantity of saltpetre (nitre) has been dissolved. By this means is obtained a pure flame and a superior light; a more perfect combustion is ensured; snuffing is rendered nearly as superfluous as in wax-lights; and the candles thus made do not run nor waste. The wicks should be thoroughly dry before they are covered with tallow, otherwise they will not burn with a uniform and clear light.

EXHIBITION OF THE N. Y. STATE AGRICULTURAL SOCIETY AT SARATOGA.—Those who intend to compete for premiums should remember that *all the animals and articles must be ready* for examination on the *first day* of the exhibition, Tuesday, the 14th of September. The first day will be devoted *exclusively* to the examination by the judges of the animals and articles exhibited, and no persons will be admitted within the enclosures on that day but the officers of the society, judges, and exhibitors.

Ladies' Department.

BOOK-FARMING—THE SHREW-MOLE AND CUT-WORM.

OLD LADIES' DIARY.—*April 7th.* My whole household in open rebellion!—What is to be done? Not to be vexed is not to be woman; but not to be amused is out of my power. It is well for me that Betsey and Peter do not write diaries, for I fear that I should make a sorry figure in their account of to-day. Betsey decidedly disapproves of making soap of potash, and wasting the *ashes* by sprinkling them on the grass; and is determined not to do it if she can help it. "The soap is not so clear and nice looking." I know it, Betsey; but then it never fails, and takes so much less time and trouble. "We never fail when the ley is good." No, but the ley is often too weak, and good soap cannot be made without strong ley, and bad soap is a great waste and disappointment. "We always have good soap when the ashes are kept dry and are not wasted, and when the ley-tubs are carefully set." But the contrary is too often the case, and the soap spoiled; besides, I want the ashes for the early pasture-lot, and so should you, for no one is more fond of early grass-butter than you are. "Ashes for manure," grumbled Betsey. "No one shall ever catch me farming from books—now book-farming is in fashion, all old ways are to be put aside." Do you remember, said I, what your grandfather used to say? He believed that ashes were clover-seed. I think, too, that we gained something worth remembering when we learned from books to dry and pack our hams before the skipper-fly made its appearance; and that charcoal is the best thing to pack them in. We have had no skippers in them since then. Betsey went her way looking as people always do when they do not choose to be convinced, and I went to the kitchen. Sally, did you put the ham on to cook, before breakfast, as I desired you. "No, ma'am, I had time to make the pie-crusts, and I thought it better to have them ready whenever it should be convenient to bake them, and there is plenty of time to boil the ham before dinner." O, Sally! Will you never learn that an *old* ham should never boil? It should only simmer, and then it takes hours to cook. An *old* ham *boils* hard and dry, but *simmers* tender and juicy—and have I not shown to you twenty times, that pie-crust becomes flat and heavy if not baked as soon as the pies are made, and heavy crust is neither good nor wholesome? The ham must not be spoiled by hasty boiling, so we must see for something else for dinner.

An hour was thus wasted in making up a dinner, and good humor lost for the day. I then went to see if my out-door directions had been better attended to. My raspberries have been mismanaged for some years, and now are failing sadly. Experience has proved that rotten wood or leaves mixed with sand is the best manure for them, and that equal proportions of rotten wood sand and good garden loam, is the best for green-house plants, particularly roses, Cape jasmines, and Daphnes. Rotten wood must therefore be of great value to mix in the manure-heap. A quantity of shavings left by the carpenter were ordered to be spread over

the barn-yard and pig-pen. George, have you spread the shavings? "No, marm, I met neighbor Prejudice, and he says they will do more harm than good, that they will soak up the water and keep it always wet, and that we had better dig a drain to dry the yard." Then where am I to get the wood for my next year's compost heap? Mr. Prejudice says stable-manure is best for everything, and we will have plenty to spare for the garden and all you want for the flowers, and if you wish rotten wood we can get it from the woods. And so lose a day in hauling earth from the woods, besides the drainings from the stable and manure-heap, because a neighbor chooses to think for me. "I can do it, if you say so," said he, "but it is of no use." Then do it, said I, leaving him looking like a martyr.

I next proceeded to the garden, hoping to be more successful with my old friend Peter, though a slight suspicion crossed my mind that he had been at the bottom of the rebellion, for he has a thorough contempt for all *book-learning*, and tolerates nothing in the literary line but the village newspaper and the old-fashioned almanac with that grotesque frontispiece, the mystic man surrounded by his attendants the "Ram, the Bull, and Heavenly Twins,"—for which I, too, have a lurking kindness, remembering my childish faith in all the signs good and bad—believing if it did not rain or snow, when the almanac said it would, that it was an accident, and should have done so, no matter from which quarter the wind blew. Therefore, when I told Peter to plant the potatoes to-morrow, and he replied that it was not the right sign and we must wait until next week, I was not much surprised at the objection, though not inclined to yield; but was sure of obedience when I hastened to save the life of a mole which he turned out with his spade, and was preparing to kill. Oh, don't kill it, said I, it is one of our best friends, don't you know that they feed on insects, and eat the grubs, and cut-worms, and all those destructive pests that do us so much injury? "No, marm, I don't, but I do know that they spoil the grass-plot, and eat up all the hyacinths and tulip-roots." You are mistaken, Peter, they live on the worms and grubs that destroy our flower-roots, and until we can find some better way of catching them, we must let the moles live, and not mind their ugly marks across the grass; when the destructive insects are gone, the moles will leave us too. This was too much for Peter to bear, he did not believe a word of the moles eating the cut-worms and not the roots, and to be expected to plant potatoes when the sign was up and not in the fish, was out of all reason. He was driven to desperation, and throwing down his spade stood erect and said, "Then, marm, if you will neither let me kill the moles, nor plant the potatoes when there will be a chance of their yielding a good crop, you must get some one to do your work who has more book-learning than I have." Now this was not what either Peter or I intended, so like a wise general, I felt that "discretion was the better part of valor," and made a prudent retreat. I knew that the potatoes would grow if planted next week, but we could not bring the moles to life again. Oh, said I, I don't care when you plant the potatoes; but I will not have the moles killed until we get rid of the cut-worms. The old man picked up his

spade, he had gained on the potatoes and could afford to lose on the moles, and silently went on with his work, giving a look of despair as he saw the mole disappear in the grass-plot. There will be no use in telling him the histories of either mole or cut-worm, so I will write them, and have them published in the only place where he would condescend to read them, the village newspaper.

The true or European mole is not found in the United States. The animal so well known bearing that name is of a different family, its proper name is *shrew-mole*, or crested shrew (*Sorex cristatus*). These moles live in pairs, and are chiefly found in places where the soil is soft, and affords the greatest quantity of worms and insects. In the winter they burrow near streams where the ground is not deeply frozen. Shrew-moles are most active early in the morning and noon. The precision with which these creatures come to the surface at mid-day is very remarkable. Their strong broad feet enable them to remove the earth before them with great rapidity, and as their keen hearing warns them of the approach of danger, it is therefore extremely difficult to catch them. Their food consists of earth-worms, grubs, and the larvæ of insects. When once a field is infested by moles, the farmer may be sure that insects and grubs are abundant. The cut-worm is a favorite food, and therefore old grass-plots will often be disfigured by their tracks.

The cut-worm is the young or larva of the soft brown beetle that appears in May and June, commonly called the May-bug (*Philophaga quercina*). These beetles usually pass the greater part of the day sitting on the branches of trees or clinging to the under side of the leaves on which they feed; but as evening approaches they begin to buzz about and continue on the wing until near midnight. In the beetle form they live only five or six days, and the whole brood disappear in a month. The female deposits 80 or 90 eggs, in the ground, of a pale yellow color and slightly oblong in shape. In fourteen days the eggs hatch, and the worm is then very small. The first year it grows half an inch long, the second an inch, and the third an inch and a half. Their food consists of the tender roots and shoots of corn, grass, and various other plants. When winter comes on, they bury themselves deep in the ground and remain without food until spring. At the beginning of the fourth year, when the grub has attained its full size, it buries itself from two to six feet deep in the earth, forms for itself a cell by turning round and moistening the earth with spittle, thus making the sides smooth and compact, and then waits its final change. The complete transformation of a cut-worm or May-bug, occupies a space of five years, or even in case the beetle be retarded in its growth by its food or unfavorable weather, sometimes six years. The May-bug is one of our most destructive insects, as the cut-worm spares neither corn-fields nor meadows. They often destroy potatoes and other vegetables, and gnaw the roots of trees and vines, so as to make them unhealthy. The full-grown insect is quite as destructive as the grub, devouring the tender leaves and buds of fruit and forest trees, and thus giving them an early blight. Pigs, moles, field-mice, skunks, crows, wood-peckers, hawks, and the large

ground beetles greedily search after and feed on the cut-worm. I wonder if Peter will believe this!

REARING OF SILK-WORMS.

Most welcome was the April number of the *Agriculturist*. We had always perused it with interest, and now that our long indulged anticipations of a country residence "under our own vine and fig-tree" are realized, we regretted that so useful a paper should have deserted us. Agricultural papers are particularly useful to all who commence cultivating the soil late in life. It is easy to ascertain the best way of getting fruit and flowers, but the more practical part of obtaining a living is aided much by the recorded experience of others. We have examined our agricultural library for directions in planting all our fruit, we find no experiments with cranberries as far south as Virginia. It may be they flourish better in a cold climate than in a warmer one.

Why are there so few *lady correspondents* in the agricultural papers? I think one or two pages might be profitably occupied in directions for the culture of the mulberry and the manufacture of silk. If every farmer's wife and daughters would devote the expenditure for one year's silk dresses to purchasing the necessities for raising silk-worms, it would be but a short time before we could export cocoons sufficient to pay for all the silk imported, and save the immense sum that is annually paid to foreign nations for this article, or if American enterprise were encouraged, we would soon compete with any nation in the hue and texture of our own manufactures. Several of the States now produce very fine silks, and it is thought that we possess every facility for raising the mulberry. Let no one say her individual influence cannot affect the twenty millions paid for silk, or that she has not the necessary time to spare; for the children of a family, without encroaching upon their other avocations, can perform most of the labor. We can follow the example of the Roman ladies, and make our own wardrobe, and silence the assertion that there must be finery in the United States, follow what may in the rear.

We could also silence the complaint of hard times, and scarcity of money, and show the world that though accused of extreme vanity, we possess energy, industry, and patriotism, equal to that of our ancestors, when they denied themselves the luxury of tea.

Will not E. S. agree with me, and lend her accomplished pen to support my proposition?

S. H. R.

Lake Borgne Place, Prospect Hill, Va.

HOW TO MAKE GOOD TEA.—Boil rain water and pour upon your tea, letting it steep from one to two minutes if you wish to realize the true taste of the "plant divine." Well, river, or spring water, in many parts of the country, is strongly impregnated with lime, which acts chemically upon the tea-leaf, and greatly deteriorates, or destroys its fine aromatic flavor. In fact, water, containing lime, or much vegetable matter in solution, has more or less effect upon all kinds of cookery. Besides, it is highly injurious to the health of most persons.

Boys' Department.

ANECDOTES OF ANIMALS.—No. 1.

"Love me, love my dog."

THERE are no animals of which boys are more justly fond and proud than their dogs; and as I have never found them weary of listening to, or reading anecdotes about them, I will begin by telling some stories of our canine favorites, which I have the very best reason to believe to be strictly true.

Some years ago a fine house-dog, which had grown old in the service of a kind master, was asleep in an upper room that overlooked the field where the cattle were grazing. The gentleman observing some little disturbance among the cows, ordered the dog to go and bring them to the barn-yard, a duty he had performed daily for years. At first, he only looked quietly up, and closed his eyes again for another nap; but upon receiving another order, he rose, wagged his tail slowly, and whined, but did not obey. His master, who at the time was lame with the gout, and perhaps a little impatient, then said in a voice half reproachful and half sorrowful—"Get you gone, Towzer! you have become old, and are as good for nothing as your master." The faithful animal looked wistfully in his face, gave a long low whine as if he understood what was addressed to him, turned slowly round, and jumped through the window to the roof of the piazza beneath it, ran in an opposite direction from the field where the cattle were; and disregarding the eager calls of the men, he never once looked back, but disappeared in the underbrush of the neighboring thicket. From that day he was never seen nor heard of, though a considerable reward was offered for his recovery. No doubt he hid himself among the rocks to die alone, as animals of various kinds are well known to do.

I have often, when a child, heard my old friend tell this anecdote with great feeling, and he always ended by saying in a sadly impressive tone, that he would give the worth of fifty such dogs,—no trifling sum—to be able to lose the remembrance of the unkind tone in which he had spoken to his faithful old favorite.

Let it be a lesson to boys, and girls, too, never to speak harshly, nor treat unkindly, "even a dog."

Another dog-story which I have heard related with many variations, I shall tell as it occurred at a house not far distant from my residence.

A fine English mastiff and a little dog "of no particular kind" occupied the same kennel very peaceably in pleasant weather, but they might well be called "fair-weather friends;" for, no sooner did a rough, cold spell come on, than ill temper and great dissatisfaction were the immediate result. The mastiff taking advantage of his strength, and thinking probably that "might makes right," always took possession of the house and left his poor little companion to shiver in the door-way, or shift for himself where he could.

This state of things continued during nearly a year, when one day the rain fell incessantly, and froze as it descended, the forlorn little fellow seemed completely at his wit's end. He crept in as far as he could, then cold and wet, tried various ways of

warming his half-frozen limbs. At last he suddenly started up, ran rapidly to the corner of the house, barked violently, and then rushed back as if seeking protection from an approaching enemy. This he repeated until the attention and good feelings of the mastiff were completely roused, and he too rushed to the corner, challenging the imaginary foe with furious barking; but seeing nothing on which to vent his wrath, he went back to his lair and found the tables turned to good effect. The cunning little dog had no sooner seen him at a distance, than he stowed himself snugly away in the warm corner of the kennel. The mastiff looked in, as if half disposed to resent such an infringement of his long enjoyed rights,—but (was he ashamed of being outwitted, or did he feel that he was suffering justly?)—he put his tail between his legs, and crept in too!

Eutawah.

E. S.

DR. FRANKLIN'S MODE OF LEARNING TO SWIM.—Choose a place where the water deepens gradually, walk coolly into it till it is up to your breast, then turn round, your face to the shore, and throw an egg into the water, between you and the shore. It will sink to the bottom, and be easily seen there, as your water is clear. It must lie in water so deep as that you cannot reach it to take it up but by diving for it. To encourage yourself in order to do this, reflect that your progress will be from deeper to shallower water, and that at any time you may, by bringing your legs under you, and standing on the bottom, raise your head far above the water. Then plunge under it, with your eyes open, throwing yourself towards the egg, and endeavoring by the action of your hands and feet against the water, to get forward till within reach of it. In this attempt you will find, that the water buoys you up against your inclination; that it is not so easy a thing to sink as you imagined; that you cannot but by active force get down to the egg. Thus you feel the power of the water to support you, and learn to confide in that power; while your endeavors to overcome it, and to reach the egg, teach you the manner of acting on the water with your feet and hands, which action is afterwards used in swimming to support your head higher above water, or to go forward through it.

A WORD TO BOYS.—The learned Blacksmith says: Boys, did you ever think that this great world, with all its wealth and woe, with all its mines and mountains, oceans, seas, and rivers, with all its shipping, its steamboats, railroads, and magnetic telegraphs; with all its millions of darkly-grooping men, and all the science and progress of ages, will soon be given over to the hands of the boys of the present age—boys like you, assembled in school rooms, or playing without them, on both sides of the Atlantic? Believe it, and look abroad upon your inheritance and get ready to enter upon its possession. The Kings, Presidents, Governors, Statesmen, Philosophers, Ministers, Teachers, Men of the future, all are boys, whose feet, like yours, cannot reach the floor, when seated on the benches upon which they are learning to master the monosyllables of their respective languages.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Cambria, we are in receipt of European journals to the 4th of June.

MARKETS.—*Ashes* in limited demand and prices scarcely supported. *Cotton*, an advance of $\frac{1}{8}$ to $\frac{1}{4}$ d. per lb. *Wheat, Flour, Indian Corn, Meal, and Rice*, a considerable fall in prices. *Provisions* no change. *Yellow Corn* 1 to 3s. per cent. dearer. *Naval Stores and Tobacco* dull. *Wool* more brisk.

Money is much easier, though still hard to be obtained except upon the best of paper at a short time to run. The current rate on this was 4 to 5 per cent.

The Weather had been very fine for three weeks, and with the exception of the potatoe, all crops were highly promising throughout Europe. Large quantities of grain were ready for shipment at St. Petersburg, Odessa, and Egypt, and the probability is, that the French and British markets hereafter will be well supplied.

Cheese Imported into Great Britain.—The total quantity of cheese imported into the United Kingdom from Europe during the year 1846, amounted to 249,664 cwt., and the quantity imported from the United States to 91,901 cwt.

Cotton-Growing in Africa.—Accounts from the Cape of Good Hope mention that an experiment made last year at Natal, on the southwest coast of Africa, in growing the cotton-plant, had been very successful, and that a joint-stock company had been formed to perfect and extend the cultivation.

A New Source for supplying India-Rubber.—It is stated that the forests of Assam, in British India, are capable of producing India-rubber sufficient to supply the demands of the civilized world, and that it has already become an extensive article of export from that province.

A New Mode of Preparing Cream for Churning.—When cream is being collected for churning, as soon as the first skimming is put into the vessel, add at the rate of half a pint of vinegar to each gallon of cream. Suppose you churn six gallons at a time, and collect only one gallon per day, put six half pints of vinegar in the vessel, at once, to the first day's cream, and so in proportion to any other quantity. Let all the vinegar for the whole churning be added to the first collected cream. I had this from a friend who supplies a large quantity of butter of the best quality to one of the crack shops at the west end. [Has anybody ever tried this in the United States?—*Gardeners' Chronicle*.]

Humble Bees Destructive to Bean-Flowers.—It is a well-established fact that bees are exceedingly serviceable in rendering flowers prolific; but it is not so generally known that many are greatly injured by them, and few farmers are probably aware that humble bees in some seasons deprive them, it is believed, of a very large proportion of their crop of beans, by puncturing the base of the flowers and rendering the incipient pod entirely or partially abortive. Many garden flowers are similarly attacked by these bees, as lark-spurs, azaleas, fuchsias, salvias, snap-dragons, and probably many others.

The cause of the humble bees thus damaging the crops of beans and flowers arises possibly from some unusually large females, for individuals of the same species vary greatly in size, not being able to creep into many flowers that are too small to admit of their bodies, and too long to allow of their reaching the nectary with their tongues. They are not, however, to be thus balked of their feast, and instinct directs them to the exact spot on the calyx beneath which the nectar is stored. There they nibble with their strong jaws until they are enabled to introduce their probosces and obtain the desired treasure. It is surprising, too, that in flowers of a peculiar structure, the bees make two holes, to extract the nectar on both sides of the germen, simply to save trouble. It is a question, however, whether

these insects are not more beneficial than injurious to crops; for if they could be extirpated, in all probability the beans would not be so prolific, and by the destruction of some flowers it is almost certain that those which escape form larger and finer pods and seeds. These are fit subjects for the cultivator to investigate, and into his hands we consign them. Hive-bees have been accused also of assisting in puncturing the flowers, but Mr. Darwin thinks they only participate in taking advantage of the labors of their bustling neighbors, as they do not exhibit the adroitness which the humble bees do, in detecting the hidden treasure.—*J. Curtis in Journal of Royal Ag. Soc.*

Thermometers.—I would call the attention of all persons having hothouses and greenhouses to the value of having two thermometers hanging in them, the one with a dry, and the other with a wet bulb. By this plan the state of humidity in the air is to be seen in a moment, by comparing the height of the two thermometers in degrees. About ten degrees between the readings of the two thermometers is what is required by most plants for their well being; the wet-bulb thermometer being the lowest. The two thermometers ought, with both bulbs dry, to indicate the same heat in rising and falling, and ought to undergo this trial, previously to being used in a hothouse. Thermometers cannot be expected to work correctly unless purchased at the best instrument makers in London. Some gardeners may already use what I mention, but many are ignorant about it.—*Gard. Chron.*

NEW ERA IN NAVIGATION.—On the 20th inst. the three-masted schooner New Brunswick anchored outside Chicago harbor, loaded with 18,000 bushels of wheat, with which she had cleared for Liverpool. She goes by the way of Welland Canal and St. Lawrence. This is the first clearance of the kind ever made from the inland waters of the great lakes for an European port, and constitutes a new era in the history of navigation.—*Quebec Gazette*.

Vinous Fermentation.—If water holding saccharine matter in solution be exposed to a temperature of about 60° Fahr., an intestine motion takes place, and bubbles of carbonic acid gas are evolved slowly at first, but afterwards more rapidly. In proportion to the evolution of this gas, the liquor loses its sweetness—its temperature rises and its specific gravity diminishes; after a time the formation of carbonic acid ceases, the sweetness is no longer perceptible, and the temperature of the fluid remains stationary; it is then said to have undergone the vinous fermentation, and to have been converted into an intoxicating, or, as it is commonly called, a fermented liquor.

The chemical change which takes place during the fermentation is very simple; it consists merely in the decomposition of the sugar, and a new arrangement of its elements—about one-half its weight being converted into alcoholic or pure spirit, and the other half into carbonic acid. It is owing to this change that the specific gravity of the liquor is diminished; the sugar, a substance of considerable density, being replaced by alcohol, a fluid of much less specific gravity than that of water.

The result is the same, whatever may be the nature of the saccharine fluid; whether it be a natural production, as the juice of the grape or the apple, or an artificial combination of saccharine matter and water, such as a solution of sugar or molasses, or the wort of malted grain. On the other hand, chemists are not acquainted with any other means by which alcohol or ardent spirit can be produced; brandy, rum, whiskey, gin, arrack, &c., are all, in the first instance, products of the vinous fermentation, being afterwards separated by distillation from the water, mucilage, and other foreign matters, that all fermented liquors contain.—*Gardeners' Chronicle*.

Editor's Table.

WASHINGTON'S AGRICULTURAL CORRESPONDENCE to Arthur Young and Sir John Sinclair, with Statistical Tables and Remarks by Thomas Jefferson, Richard Peters, and other Gentlemen, on the Economy and Management of Farms in the United States. Edited by Franklin Knight, pp. 198 quarto. It has been the object of the editor in bringing out this work to make the agricultural community acquainted with the *Illustrious Farmer of Mount Vernon*, he, "who was first in war, first in peace, and first in the hearts of his countrymen."

Washington is universally known as a successful general and a wise statesman. But, reader, are you aware that agriculture was his study and delight? That in the cultivated field his practice was as excellent as his skill in the field of battle? And that his maxims of husbandry were as wise as his political precepts? So important did he consider the position of the American Farmer, both as to the wealth and prosperity of the nation, that he himself, setting the prime example, devoted all his leisure time, either to the culture of his farm in person, overseeing and directing all things with his own eye, or in conducting an extensive correspondence on the subject with some of the most experienced and enlightened men in Europe. Therefore, the letters and other information, contained in the work before us, cannot be too highly prized, and we heartily wish that they might be read by every person in the country. The book is elegantly got up, ornamented by a beautiful portrait of Washington, with several views of his estate at Mount Vernon; and, we are happy to learn, it is extensively adopted as a premium to be contended for by agriculturists in our State and County Societies.

The work is for sale by Baker and Scribner, of New York, and William S. Martien, of Philadelphia. Price \$3.50 to \$6, according to binding and size.

A DICTIONARY OF MODERN GARDENING. By George W. Johnson, Author of the Principles of Practical Gardening, &c., &c., with 180 wood-cuts. Edited with Numerous Additions, by David Landreth. Philadelphia: Lea and Blanchard, pp. 635, 12mo. Price \$1.75. We are pleased to announce this valuable work of Mr. Johnson, *Americanized* by so experienced a horticulturist as Mr. Landreth, which has been greatly altered from the original. Many articles of little interest to Americans have been curtailed, or wholly omitted, and much new matter, with numerous illustrations, added. It appears to have been an object with Mr. Landreth to increase the popular character of the work, thereby adapting it to the larger class of horticultural readers in this country, forming a complete Encyclopædia of Gardening, in so cheap and condensed a form as to be within the reach of most persons interested in rural affairs. We have it for sale at our warehouse.

WASHINGTON AND HIS GENERALS. By J. T. Headley, 8th Edition. New York: Baker and Scribner, 36 Park Row, 2 vols. 12mo. pp. 720. The brilliancy, as a writer, of the author of Napoleon and his Marshals, is too well known to need comment here. In a similar manner, as with his Napoleon, he has designed to group around Washington the chief characters and scenes of our Revolution, by giving the eventful part, rather than its detailed history. The work is neatly got up, illustrated by sixteen portraits from steel engravings. For sale by C. M. Saxton, 205 Broadway, N. Y. Price \$2.50.

A CYCLOPÆDIA OF 6000 PRACTICAL RECEIPTS, and Collateral Information in the Arts, Manufactures, and Trades, including Medicine, Pharmacy, and Domestic Economy. Designed as a Compendious Book of Reference for the Manufacturer, Tradesman, Amateur, and

Heads of Families. By Arnold J. Cooley, Practical Chemist. Illustrated with Numerous Engravings. New York: D. Appleton & Co., pp. 576, 8vo. Price \$2. The design of this work is to present an accurate and compendious collection of formulæ and processes, with a variety of information suitable to the general reader, and practical purposes. We should judge that it constitutes the best manual extant, for family use, for the culinary and other departments of household life, and will prove particularly useful to the dairyman, the farmer, and, in short, to almost every manufacturer in the arts.

A STATEMENT OF THE CLAIMS OF CHARLES T. JACKSON, M.D., to the Discovery of the Applicability of Sulphuric Ether to the Prevention of Pain in Surgical Operations. By Martin Gay, M.D. Boston: pp. 48, 12mo. This pamphlet presents a general statement of the most important facts relating to the history of the above-named discovery, and establishes beyond a doubt that its application originated with Dr. Jackson, by experiments on himself and others, and that he had urged its use as a preventive of pain in dental operations, as early as 1842.

THE MINING JOURNAL and American Rail-Road Gazette, Devoted to Improvements in Mining, Manufactures, Inter-Communication, and the Arts, is published semi-monthly at the Office of the Merchants' Magazine, 142 Fulton St., N. Y., by John E. Grant, at \$3 per annum.

THE ROSE CULTURIST; a Practical Treatise on the Cultivation and Management of the Rose; just published and for sale at 25 cents, by W. H. Starr, 135 Nassau street, N. Y.

ILLUSTRATED BOTANY.—The Illustrated Botany noticed in our last volume, published by J. K. Wellman, has passed into the hands of B. H. Culver, 139 Nassau St., N. Y., and is issued monthly at \$3 per annum.

LIEBIG'S AGRICULTURAL CHEMISTRY. Edited from the Manuscript of the Author, by Professors Playfair and Gregory, from the 4th London Edition, Revised and Enlarged. New York: Wiley & Putnam, pp. 400, 12mo. Price 75 cents. The present edition has been entirely revised, and is enriched with a large number of recent analyses of manures, and especially of the ashes of plants, the greater part of which have been made under the eye of the author in his laboratory at Giessen, and with the aid of the most improved methods. The work appears to be accurately printed, and is a decided improvement over all former editions.

THE WORKS OF FLAVIUS JOSEPHUS; A New Translation, by Rev. Dr. Robert Traill, with Notes, Explanatory Essays, etc., by Rev. Isaac Taylor, of Ongar, and Numerous Pictorial Illustrations. New York: Harper & Brothers. The entire works of the Jewish Historian constitute in this translation, two portions. The first contains his "Life," by himself, the "Jewish War," and the two books against "Apion," with at least one hundred engravings, and is now in the course of publication. The second portion is immediately to succeed the completion of the first, and will comprise the "Antiquities," with some apocryphal pieces which have usually been attributed to Josephus.

The American edition will contain every word of the original, and will be published in parts of 64 octavo pages each, at about one-fifth the price of the London copy. The first two numbers have been issued and are for sale at 25 cents each.

INSTRUCTIONS TO YOUNG SPORTSMEN, in all that relates to Guns and Shooting, by Lieut. Col. P. Hawker. First American, from the ninth London edition, to which is added the Hunting and Shooting of North America, with descriptions of the animals and birds, carefully collected from authentic sources, by Wm. T. Porter, Esq., editor of the New York Spirit of the Times, pp. 456 octavo, with numerous illustrations,

Lea & Blanchard, Philadelphia. Price \$2.75. We believe we do not err when we say, that Col. Hawker's work is considered the best of the kind yet published in England; and the reader may judge of the additional merits of the American edition, when we inform him that its accomplished editor has not only drawn from his own large experience in all sporting matters, but has also liberally taxed the distinguished pens of Herbert, Audubon, Giraud, Chapin, Thorpe, Lewis, Sibley, Willis, Alexander, Haliburton, Kendall, and several others too modest to own their contributions. The illustrations are really beautiful, and in all respects the publishers have done well their part. Every country gentleman ought to possess this volume; for, aside from its merit as a sporting work, it contains valuable articles on Natural History, and essays of a high literary order.

THE BOY'S SUMMER BOOK: By Thomas Miller. New York: Harpers, pp. 128, 12mo. Price 37½ cents. This little volume, which is a reprint of the London edition, constitutes a part of the Boy's Own Library, and is descriptive of the season, scenery, rural life, and country amusements of England. It is beautifully illustrated, and will form a handsome present for any good boy who has behaved well in school, or made himself useful at home.

THE AMERICAN ARCHITECT, comprising Original Designs of Country Residences adapted to the taste and circumstances of the Merchant, the Farmer, and the Mechanic. By An Association of Practical Architects. New York: C. M. Saxton, 205 Broadway. Price 25 cents per number.

THE AMERICAN PENNY MAGAZINE AND FAMILY NEWSPAPER, edited and published by Theodore Dwight, 112 Broadway, N. Y., at \$2 a year. Every subscriber, after sending his payment in advance for a year, will be furnished with 25 seeds of that elegant tree, the Catalpa. The history and directions for rearing it will be found in the work. Persons sending the money for several subscribers, will receive a proportionate return in such seeds as they may choose, or such others as can be procured. Seeds of curious and valuable new trees, shrubs, and flowers, will be occasionally sent in small numbers to all punctual subscribers with instructions.

THE TRANSACTIONS OF THE N. Y. STATE AGRICULTURAL SOCIETY have been received, and will be noticed in our next number.

GREAT SALE OF STOCK.—We beg to call the particular attention of our readers to the sale of Stock advertised in this number of our paper by Col. J. M. Sherwood, of Auburn, New York. We have often had the pleasure of examining his flocks and herds, and think them equal to anything of their kind in the United States. He was judicious in his first selections, and has since bred with great care and intelligence. With the present high prices of produce, our farmers can well spare the means for improvements; and what among these is more desirable or pays better than choice breeds of stock? A most excellent opportunity is now offered by Col. S., in the sale of his fine animals, which we hope the agricultural community will improve for their benefit. Whatever is offered, gentlemen may be assured will be sold *without reserve*, they can therefore bid at this sale with the utmost confidence that it will be conducted throughout in good faith.

MASTODON COTTON.—Since the appearance in our pages of Mr. Abbey's articles on this subject, we have received several communications from planters in Mississippi, saying that they have tried this cotton in different kinds of soil, highlands, swamp alluvions, and creek-bottoms, and that it has not answered their expectations. Indeed, they say it is not equal to common Mexican, and very plainly pronounce it a "gross humbug on the planting interest." We profess to know nothing of the merits of the case ourselves; but having seen this cotton highly commended for two or three

years past in several of the most respectable journals of the South, we solicited Mr. Abbey, when on here last summer, to write us a series of articles on the subject, which he readily did. Several of our friends at the South are making experiments with it again this summer, and promise us next fall a candid statement of facts regarding it, which we assure them shall be promptly published in our journal. We trust, therefore, they will pardon us declining their present communications, and that they will patiently wait the result of further trials. No one can be more opposed to humbugs than ourselves, and no one can more sternly set his face against them; but at the same time we must not condemn too hastily, otherwise we may do great injury for want of proper knowledge, or a partial or unfortunate trial of the matter in hand.

MEMBERS OF THE BOARD OF AGRICULTURE OF THE AMERICAN INSTITUTE OF NEW YORK.—Philip Schuyler, New York City, President; Nicholas Wyckoff, Bushwick, L. I., Vice President; J. Lawrence Smith, Smithtown, L. I., Secretary; R. T. Underhill, New York City, Charles Henry Hall, Harlem, N. Y., Thos. Bridgeman, New York City, W. J. Townsend, Astoria, L. I., Henry A. Field, New York City, Robert S. Livingston, Barrytown, Dutchess Co., Thomas Bell, Morrisania, Charles Dennison, Morrisania, E. M. Dodd, Orange, N. J., Edward Clark, Brooklyn, L. I., Francis Barretto, West Farms, N. Y., James Mouroe, Harlem, N. Y., Benjamin L. Benson, Harlem, N. Y., Thos. Addis Emmet, New York City, Jordan L. Mott, Harlem, N. Y., Lewis G. Morris, West Farms, N. Y., John G. Bergen, Gowanus, L. I., James De Peyster, New York City, Samuel Walker, Boston, Mass., John O. Choules, Boston, Mass., H. A. S. Dearborn, Roxbury, Mass., R. L. Pell, Pelham, Ulster Co., N. Y., James Rennie, New York City, Roswell L. Colt, Patterson, N. J., Ambrose Stevens, New York City, D. S. Mills, Newtown, L. I., Robert Grant, Pleasant Valley, Dutchess Co., N. Y.

THE VAN SCHAICK PREMIUM.—The \$1000 generously given by Myndert Van Schaick, Esq., of this city, to be bestowed by the American Institute in premiums of \$100 for ten successive years, will be awarded at the Twentieth Annual Fair in October, 1847, as follows:

The Silk to be the growth of the United States, and to be manufactured within the year.

For the best piece of silk, 27 inches in width and 60 yards in length,.....	\$50
For the best piece of silk for handkerchiefs, 60 yards in length,.....	30
For the best piece of silk velvet not less than 20 yards,.....	20
For the best exhibition of silk ribbon, not less than 12 pieces of 10 yards each,.....	20
For the best reeled silk, not less than 10 lbs.,.....	10
Second best, do do do.....	5
For the best sewing silk of any color,.....	10
For the best bushel of peanut cocoons,.....	10
Second best do do.....	5

TO ADVERTISERS AND CORRESPONDENTS.—*Please to remember* that in consequence of the large edition of our paper, and the necessity of going to press at an early day in order to get it out in season, all matters of correspondence should be forwarded us *by the first week* of the preceding month, and advertisements by the second week. For example, if an article be destined for August number, forward it as early as the 7th of July, if an advertisement, by the 14th, or earlier if convenient. Any favors coming to hand later than the above dates are liable to lie over for a succeeding number of the paper.

This we often regret, for, in consequence, the articles are frequently inserted quite out of season. We wish correspondents would reflect, that it is better to be a month *too early* than a month *too late*.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JUNE 19, 1847.

ASHES, Pots,.....	per 100 lbs.	\$4 75	to	\$4 81
Pearls,.....	do.	6 00	"	6 06
BALE ROPE,.....	do.	5	"	6
BARK, Quercitron,.....	ton.	37 00	"	40 00
BEANS, White,.....	bush.	1 25	"	1 75
BEEFWAX, Am. Yellow,.....	lb.	26	"	30
BOLT ROPE,.....	do.	11	"	12
BONES, ground,.....	bush.	40	"	55
BRISTLES, American,.....	lb.	25	"	65
BUTTER, Table,.....	do.	15	"	25
Shipping,.....	do.	9	"	15
CANDLES, Mould, Tallow,.....	do.	10	"	12
Speru,.....	do.	25	"	38
Stearc,.....	do.	20	"	25
CHEESE,.....	do.	5	"	10
COAL, Anthracite,.....	2000 lbs.	5 00	"	6 00
CORDAGE, American,.....	lb.	11	"	12
COTTON,.....	do.	10	"	14
COTTON BAGGING, Amer. hemp,.....	yard,	11	"	14
FEATHERS,.....	lb.	25	"	34
FLAX, American,.....	do.	8	"	9
FLOUR, Northern and Western,.....	bbl.	7 75	"	8 12
Fancy,.....	do.	8 50	"	9 00
Southern,.....	do.	7 75	"	8 00
Richmond City Mills,.....	do.	9 00	"	9 50
Buckwheat.....	do.	4 50	"	5 00
Rye,.....	do.	6 50	"	6 75
GRAIN—Wheat, Western,.....	bush.	1 75	"	1 90
Southern,.....	do.	1 70	"	1 80
Rye,.....	do.	1 15	"	1 20
Corn, Northern,.....	do.	1 00	"	1 05
Southern,.....	do.	98	"	1 00
Barley,.....	do.	70	"	75
Oats, Northern,.....	do.	55	"	60
Southern,.....	do.	45	"	50
GUANO,.....	do.	2 50	"	3 00
HAY, in bales,.....	100 lbs.	50	"	55
HEMP, Russia, clean,.....	ton.	275 00	"	280 00
American, water-rotted,.....	do.	160 00	"	220 00
American, dew-rotted,.....	do.	140 00	"	200 00
HIDES, Dry Southern,.....	do.	7	"	9
HOPS,.....	lb.	8	"	10
HORNS,.....	100.	2 00	"	10 00
LEAD, pig,.....	do.	4 50	"	4 56
Sheet and bar,.....	lb.	4 1/2	"	5 1/2
MEAL, Corn,.....	bbl.	5 25	"	5 50
Corn,.....	lhd.	20 00	"	22 50
MOLASSES, New Orleans,.....	gal.	30	"	32
MUSTARD, American,.....	lb.	16	"	31
NAVAL STORES—Tar,.....	bbl.	2 50	"	2 62
Pitch,.....	do.	88	"	1 06
Rosin,.....	do.	75	"	85
Turpentine,.....	do.	3 25	"	—
Spirits Turpentine, Southern,.....	gal.	35	"	36
OIL, Linseed, American,.....	do.	65	"	75
Castor,.....	do.	75	"	95
Lard,.....	do.	85	"	90
OIL CAKE,.....	100 lbs.	1 50	"	1 75
PEAS, Field,.....	bush.	1 25	"	1 75
PLASTER OF PARIS,.....	ton.	2 25	"	3 00
Ground, in bbls,.....	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....	bbl.	10 00	"	13 75
Prime,.....	do.	8 50	"	9 50
Smoked,.....	lb.	7	"	11
Rounds, in pickle,.....	do.	5	"	7
Pork, Mess,.....	bbl.	14 50	"	17 00
Prime,.....	do.	12 00	"	13 62
Lard,.....	lb.	9	"	10 1/2
Bacon sides, Smoked,.....	do.	6	"	8
In pickle,.....	do.	5	"	7
Hams, Smoked,.....	do.	8	"	12
Pickled,.....	do.	6	"	10
Shoulders, Smoked,.....	do.	6	"	8
Pickled,.....	do.	5	"	7
RICE,.....	100 lbs.	4 75	"	5 75
SALT,.....	sack.	1 25	"	1 35
Common,.....	bush.	20	"	35
SEEDS—Clover,.....	lb.	7	"	10
Timothy,.....	bush.	2 00	"	4 00
Flax, clean,.....	7 do.	10 00	"	11 00
rough,.....	do.	9 25	"	9 50
SODA, Ash, cont'g 80 per cent. soda,.....	lb.	3	"	3
Sulphate Soda, ground,.....	do.	1	"	—
SUGAR, New Orleans,.....	do.	6	"	9
SUMAC, American,.....	ton.	35 00	"	37 50
TALLOW,.....	lb.	8	"	9
TORACCO,.....	do.	2	"	7
WHISKY, American,.....	gal.	34	"	35
WOOLS, Saxony,.....	lb.	35	"	60
Merino,.....	do.	30	"	35
Half blood,.....	do.	20	"	25
Common do,.....	do.	18	"	20

REMARKS.—There is a slight fall in Ashes and something more in Flour since our last. Beef and Pork have advanced a trifle.

Money is very abundant and business brisk.

The Weather is very favorable for the crops, sunshine and rain alternating just right in this quarter. We notice some grumbling about the wheat crop west of us, but, on the whole, are inclined to think we shall have a full average. That of Georgia, the Carolinas, and part of Virginia, is already harvested, and proves an uncommonly good yield. Other crops are highly promising.

ACKNOWLEDGMENTS.—Specimens of Swaar Apples from Barnabas Miller, of Catharine, N. Y.; List of Premiums to be awarded at the 3d Annual Fair of the Society of Agriculture and Horticulture of West Chester County, N. Y. 1847; Rules and Regulations to be observed at the 5th exhibition of the Massachusetts Charitable Mechanic Association for the Encouragement of Manufactures, &c., to be held in Boston on the 15th of September next; Regulations for the Exhibitions of the American Agricultural Association to be held in the City of New York on the 15th of September next; List of Premiums offered by the Seneca County Agricultural Society, to be held at Ovid, N. Y. on the 14th and 15th of October next; Premiums offered by the Worcester county Cattle Show to be held at Worcester, Mass., on the 23d of September next; Descriptive Catalogue of Kenrick's Nurseries, Nonantum Hill, Newtown, Mass.; Bardwell's Treatise on Teeth; The Missouri Farmer; Also the Proceedings of the Agriculturists' and Mechanics' Association of Louisiana, held at Baton Rouge, in January last, containing an Oration by J. D. B. De Bow, Esq., and an Essay by B. M. Norman, with Reports of Committees, &c.

TO CORRESPONDENTS.—Communications have been received from Peter A. Remsen, J. M. C. R. L. Allen, W. Bacon, Wm. R. Prince, N. Longworth, and B. F. Johnson.

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THREE Pairs Fine Horses, now in the country; bay and brown with long tails; well matched, fine travellers, and superior; bred in Western New York. Address J. M. Sherwood, Auburn, N. Y.; and A. B. ALLEN, 187 Water st., N. Y.

DUCHESS AGRICULTURAL INSTITUTE.

This institution, located on the *Wilkinson Premium Farm*, in the Western valley of Union Vale, Dutchess Co., N. Y., is still in successful operation, having commenced the summer Term on the first of April, with its usual number of pupils. The Principal, gratefully acknowledging the support of his patrons for the past year, respectfully solicits at the hands of the public that patronage which his efforts and the character of the institution justly claim, and hereby pledges himself to endeavor to continue carefully to guard the morals of his pupils, and let their course of instruction be such as to render them, not only thorough, practical, and scientific Farmers, but, accomplished Gentlemen.

Pupils received at any time during the year. The winter term commences OCT. 1st. on which day, as well as on every Wednesday throughout the year, a conveyance will run regularly from the Steamboat Pier, Poughkeepsie, to the Institute, for the conveyance mails, passengers, and its general convenience.

Fee for the year \$200, payable semi-annually in advance, which includes Tuition, Board with Beds and Bedding, Toilette Furniture, Washing, Mending, Fuel and Lights. For further particulars address

JOHN WILKINSON,
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Having been for some years familiar with the work, we can speak confidently of its merits, and trust that the generous enterprise of the publishers will meet with abundant encouragement from the public.—*Prot. Churchman.*

It is by general consent pronounced the most reliable, accurate, and admirably arranged History of Great Britain that has appeared. We have rarely, if ever, seen a book possessing stronger claims upon public patronage.—*New York Recorder.*

June, 1847.

**SALE OF SHORT-HORNED CATTLE.
MERINO AND SOUTHDOWN SHEEP.**

In consequence of becoming overstocked, I will offer for sale at my residence in the Town of Auburn, on Wednesday, the 8th of September next, *Forty Head of Short-Horned Cattle*, consisting of about thirty cows, heifers, and ten young bulls. I shall select from my whole herd one bull "Symmetry," two cows and two heifers, which will not be offered for sale. The balance, being about forty, will be sold without reserve. The original cows of this herd were selected from the best of the herds of the late Return Van Rensselaer, Francis Rotch, and L. F. Allen, whose reputation as breeders of fine stock requires no eulogy from me. The younger stock were bred with much care from my bulls, Archer and Symmetry; both have received the prize as the best bulls at the exhibitions of the N. Y. State Agricultural Society. "Archer" was bred by Francis Rotch, of Butternuts, from his famous imported cow "Adaliza," and got by "Rolla." (See Coats's Herd Book, No. 4991). Symmetry was bred by Geo. Vail, of Troy, out of his cow "Dutchess," and got by his Duke of Wellington (See Coats's Herd Book, No. 3554, or American Herd Book, No. 55,) both of which he imported from the herd of Thomas Bates, of Yorkshire, England. Full pedigrees will be prepared and printed by the 1st of July—to be had at the office of American Agriculturist, N. Y., Cultivator Office and Agricultural Rooms, Albany, Office of Genesee Farmer, Rochester, L. F. Allen, Black Rock, and at my residence.

Also, I will sell Ten (10) three-fourths and half-bred cows and heifers.

After the sale of the above Cattle, I will sell at auction one hundred (100) Merino Rams, 10 to 15 South Down Rams, Sixty (60) Merino and thirty (30) grade Merino Ewes—the Ewes sold in pens of three. That gentlemen not acquainted with my sheep may form some opinion of their value, I make the following statement, viz:—

I have cut five (5) clips of wool from my flock of sheep—the clip of 1846 averaged a fraction over four (4) pounds per head. (This was the largest). One of the five clips I sold at thirty-nine cents, the other four I sold at different times to one Manufacturing Company at forty cents per lb. all at my own house.

Terms of the Sale Cash or approved Endorsed Notes payable at the Bank of Auburn at three months with interest.

J. M. SHERWOOD.

Auburn, Cayuga County, N. Y. June 1st, 1847. jy3t

SHORT-HORN STOCK FOR SALE.

THE Subscriber has on his farm a few Spring Calves (Bulls and Heifers), which he will dispose of when three or four months old at \$75 to \$100 apiece. These animals were all got by his premium Bull, Meteor, a descendant of his imported Bull, Duke of Wellington and Duchess Heifer, both of which were from the celebrated short-horn herd of Thomas Bates, Esq., of Yorkshire; and being out of good milking short-horn cows, and possessing through the Bulls Duke of Wellington and Meteor some half, and others three-quarters, of the blood of the Bates Bulls, they will be valuable to such as wish to improve their herds.

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**TRANSACTIONS OF THE
MASSACHUSETTS HORTICULTURAL SOCIETY.**

THE Massachusetts Horticultural Society announces to the Public, that its Committee of Publication is preparing to publish the first number of a series of Transactions of this Society.

This publication has been for some years in contemplation, and materials have been collected for this purpose; but it has been hitherto delayed until the funds of the Society should enable it to be produced in a style of excellence which could not fail to render it both permanent, and an honor to the advanced state of the Horticulture of the present day.

It is intended that the work shall be in ROYAL OCTAVO, and the numbers shall appear as frequently as materials accumulate; each shall contain from four to six PLATES, chiefly of Fruits, but occasionally of Flowers, drawn and colored from nature, by the best talent the country can produce, and also the proceedings of the Society, including the reports of the weekly and annual exhibitions, to the date of publication.

The society hopes soon to offer such premiums for able communications on Horticultural subjects, as shall secure to these Transactions papers containing information of great practical value to all interested in this pursuit.

Although the authors of papers will alone be generally responsible for their contents, yet all accounts and descriptions of Fruits will be published under the immediate supervision of the Fruit Committee, and of Flowers under that of the Flower Committee; so that the authenticity of the Society will be attached to the most essential portions of their Transactions.

To establish a standard for all the present varieties of fruit, and to enable the public to judge of the quality of new kinds, as they shall be presented from imported trees, or from varieties originating in this country, will be one of the principal purposes of these Transactions, and will receive the particular attention, not only of the Committees of this Society, but also of the most experienced of its individual members.

The price to the members of the Society, will be about the cost of plates, printing, &c., and will not exceed seventy-five cents per number—to others the charge will be one dollar.

All communications intended for publication, may be addressed to J. E. TESCHEMACHER, Esq., Corresponding Secretary of the Society, Boston.

Orders and subscriptions for these Transactions, may be addressed to W. D. TICKNOR & Co., publishers, corner of Washington and School streets.

Horticultural Hall, School St., }
Boston, March 25, 1847. }

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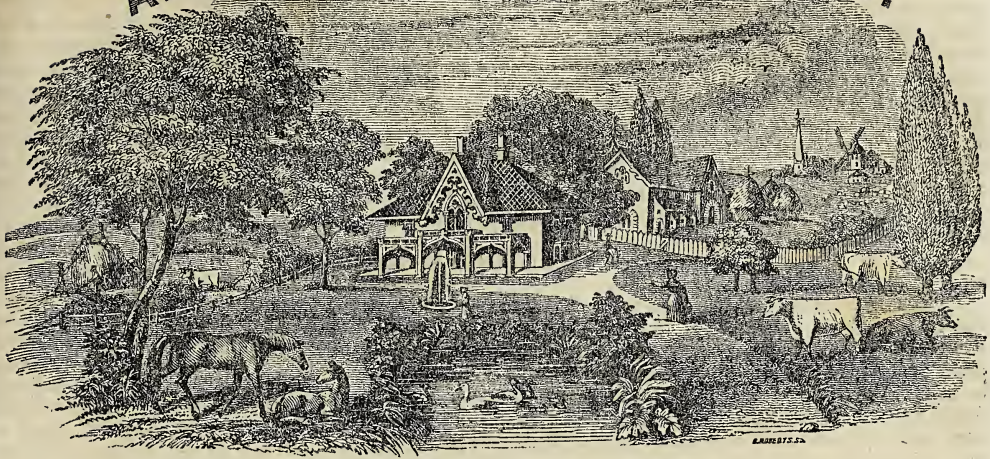
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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VI.

NEW YORK, AUGUST, 1847.

NO. VIII.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

HOW TO MAKE YEAST.

Mix two quarts of water with wheat flour to the consistence of thick gruel; boil it gently for half an hour, and when almost cold, stir into it half a pound of sugar, and four table-spoonfuls of good yeast. Put the whole into a large jug or earthen vessel, with a narrow top, and place it before the fire, so that it may, by a moderate heat, ferment. The fermentation will throw up a thin liquor, which pour off and throw away; keep for use, the remainder in a bottle or jug, in a cool place. The same quantity of this, as of common yeast, will suffice to bake or brew. Four table-spoonfuls of this yeast will make a fresh quantity as above, and the stock may always be kept up, by fermenting the new yeast with the remainder of the former quantity.

For a recipe for making excellent *Yeast Cakes*, see page 128 of our fourth volume.

CHEESE-MAKING.

THE quality and flavor of cheese vary according to the methods employed in its manufacture, and the richness of the milk of which it is made. A very slight difference in the materials; the cleanliness of the utensils; the temperature of the milk when set; the mode and time of collecting the curd before pressing; the salting of the curd; the addition of herbs or coloring matter; the degree of pressure; the frequent turning of the cheese while on the press; the coating or rubbing of its surface; the temperature and airiness of the place of drying; and the length of time allowed for maturation, all tend to alter its taste and odor, in some or other particular, and that in a way perceptible to the refined palate. The nature of the pasture, or the food on which the cows are fed, as well as their particular breed, no doubt also tend in some degree to promote the same diversity of flavor and quality; but these

influences, if they exist, are comparatively slight and subordinate, as the quality and flavor of the cheese made from the same herd often do not vary in any important particular, whether made in winter or summer, notwithstanding the food may differ from the luxuriance of vegetation at one period, and its scarcity or abundance of flowering plants at another. So long as the cows receive sufficient food of good quality, and are allowed healthful air and exercise, with proper cleanliness, it is the opinion of good judges, that the precise description of food is of little consequence, as far as the quality or flavor of the cheese is concerned; yet the richness of the milk, or the quantity of the cream, is greatly augmented when the cows are fed on Swedish turnips (*ruta-baga*), or are depastured on white clover and other sweet grasses grown on a dry soil.

The chief conditions necessary for the preparation of the superior kinds of cheese, are a *proper regard to the temperature of the milk when set; the careful and gradual removal of the whey; and a comparatively low temperature during the maturation or process of ripening.* If the temperature of the milk much exceed 80° to 85° F., say ten or twelve degrees below blood heat, both the quality and quantity of the cheese are deteriorated; if below 80°, the curd is so long in collecting, that the risk is incurred of its becoming sour, and the cheese when made has a tendency to mould. If the curd, when formed, is not immediately separated from the whey, the production of lactic acid ensues, the fluid turns sour, and the cheese itself becomes rancid and passes into a state of decomposition. If the place appropriated for ripening or storing the cheese be exposed to sudden changes of temperature, as an attic, or upper room in a house, the cheeses, if they are rich, are apt to crack, or run, and from too rapid drying, they are deprived

in a measure, of that pungent taste so much admired by all lovers of good cheese. For when cheese-curd is kept in a cool airy place, as a lower room on the northerly side of a house, or a slightly damp airy cellar, of a constant temperature of 40° to 50° F., a series of transformations takes place, in consequence of which it assumes entirely new properties; it gradually becomes semi-transparent, and more or less soft throughout the whole mass, exhibiting a feebly acid reaction, and developing the odor and flavor characteristic in cheese, which are principally owing to the decomposition of the butter, and the liberation of the capric and caproic acids contained in the curd.

The other points important to be observed in making good cheese, are as follows:—

1. *The Age and Proper Quantity of Rennet.*—For reasons stated on page 144 of the present volume, the age of the rennet should not be less than eight or ten months, and the quantity used should be just sufficient to bring the curd to a fit state for breaking, which will ordinarily require about an hour and a quarter, when the color of the whey is of a pale-green, and separates freely from the curd on a slight pressure. The quantity of rennet required will depend on its strength. The stronger it is, the quicker the coagulation, the temperature of the milk being the same. In general, a piece of dried rennet of the size of a half dollar will be enough for 20 gallons of milk; but, should this prove insufficient, a little more may be added. If too much be put in, an unpleasant flavor or bitterness will be imparted to the cheese.

2. *Collecting and Preparing the Curd for the Press.*—One of the most approved modes of collecting the curd, is, to gather it with the hands very gently towards the sides of the tub, letting the whey run through the fingers until it becomes cleared, and lading it from the hollow in the centre, as fast as it appears. By this means, most of the oily particles will be preserved, which would be carried off in the whey if other methods were employed. The curd thus partially separated from the whey may next be worked slightly and slowly, at first, with a cheese-knife, cutting it at right angles quite down to the bottom of the tub into squares about an inch apart. When it has stood five or ten minutes to allow the whey to sink a little, and come out as clear as possible, the latter may be dipped out with a bowl, and strained through a cloth or fine hair-sieve, in order to save the small particles of curd, which may have escaped. The curd may now be slowly cut a second time, with the strokes of the knife at a considerable distance from each other, at first, and gradually quickened and brought nearer and nearer to each other until the whole mass is reduced to one degree of fineness. This operation may occupy from fifteen minutes to half an hour.

The curd, being now sufficiently settled, can be placed over the whey-leads, or tub, in a basket or sieve, with a cloth over the bottom, in order to drain. It may then be put into the hoop, cylinder, or vat, and pressed down with the hand, then covered with the cheese-cloth and subjected to a slight pressure for half an hour, when it may be taken out of the press, cut into slices, and put into a newly invented mill, over the tub, which will tear it into very small crumbs not much larger than a

pin's head. This mill is a great improvement for those who have large dairies, not only as it saves the dairy-maid the most laborious part of the process, that of rubbing and squeezing the curd into crumbs with her hands, but as it allows the oily particles to remain in the cheese, which her hands would squeeze out. The hoop, or vat, may now be filled with curd as compactly as can be done with the hand, being rounded up in the middle, just sufficient that the whole can be pressed in. The cheese-cloth may then be spread over the vat and moistened with a little hot water, which tends to harden the outside of the cheese and prevent it from cracking. The curd may now be turned out of the vat into the cloth, and the vat dipped into whey to wash away any crumbs that may cling to it. The inverted cloth containing the curd, can then be squeezed into the vat, folded over, tucked in, and the whole put into the press for two hours, with a gradual, though slight increase of pressure. Then, let the cheese be taken out, turned on a dry cloth, replaced in the vat, and subjected to an increased pressure, but not heavy, all of which operations should be repeated three or four times in the course of the day, when it will be ready for salting.

3. *Salting, Pressing, and Drying the Cheese.*—The salting of cheese should never be begun till the skin or rind is completely closed; for if there be any cracks in its surface, at the time of salting, they never will afterwards close; and if the curd be salted, when ground down before being put into the vat, the salt has the effect of giving a skin to each of the particles it comes in contact with, which will prevent them from intimately uniting, although the curd may be pressed together and form good cheese, yet it never will become a smooth, close, solid mass, like that which is salted after it is made, but is of a loose texture, crumbling when cut, with a brittle rind, which, when examined, appears as if formed of many irregular portions, like mosaic work.

The salting may be performed by rubbing with the hand both the sides and edge of the cheese with finely powdered, St. Ubes, Cadiz, Liverpool, or Turk's-Island, salt. After this, the cheese may be put back into the vat and subjected to gradual and increased pressure, repeating the turning three or four times in the course of the day. The operation of salting should be performed at intervals of twenty-four hours each, three or four times, according to the size of the cheese, care being observed to turn the cheese three or four times a day and increasing the pressure at every change. After the second salting, the cheese should be returned to the vat without the cloth, in order that the thread-marks may be effaced, and the cheese may acquire a smooth surface and a "keenness of edge." The quantity of salt to be used may vary from 2 to 3½ ounces to 1 lb. of curd.

The next step to be taken, is, to wash the outside of the cheese in warm whey, wipe it dry, and put it on a shelf in the dairy, secure from flies, where it may remain a day or two, turning it over once in twelve hours. It may then be taken to the cheese-room, wiped and turned every day until it become sufficiently dry, which will ordinarily require from four to six weeks, when it will be ready for cleaning. This may be done by scraping off all scurf

from the sides and edge with a common knife, and then rubbing all over it, with a woollen cloth, a thin coat of whey-butter, linseed oil, or a paint made of Indian red or Spanish brown, mixed with beer. After this, the cheese should be turned over at least twice a week, until the paint or coating becomes perfectly dry. It may then remain in the cheese-room, which, it must be recollected, should always be cool, of a uniform temperature, free from much light and flies, with a moderate current of air passing through it, until required for use.

THE BEST SEASON FOR CUTTING BUSHES.

The month of August is accounted as the best time to cut under brush in forest lands, as well as wild bushes or shrubs which naturally throw out branches near or under the ground, in open pastures and fields. In general they may be killed by cutting them off close to the ground this month, or by grubbing them up by the roots. Suckers, however, which shoot up from the roots of trees, should not be broken off below the surface of the ground, as a new set will be likely to spring up the next year, in consequence of the fresh wounds thus made in the roots. The work may be done very expeditiously and in a perfect manner, with a bush-hook, denoted by the above cut, which we have on sale at \$1 each without the handle, or \$1.50 complete.

BUSH-HOOK.—FIG. 54.



CULTIVATION OF TURNIPS.—NO. 2.

Culture and Thinning out the Plants.—If the ground at the time of sowing be in a warm, moist condition, and an active stimulating manure be applied, the young plants will, in general, make their appearance in six or eight days, according to the quality of the soil and the state of the weather. It may be longer, however, before they appear, particularly if the manure is not quick in its action, and the season should be adverse to vegetation.

As soon as the second, or rough leaves of the plants are about two inches high, a horse or hand-hoeing is to be performed between the ridgelets, to cut up the weeds. The hand-hoe may shortly afterwards be introduced to thin out the plants, leaving them at intervals of from eight to ten inches apart in the row, or if sown broad-cast, about the same distance from each other. No fixed rule, beyond the first thinning, can be laid down for the after-cultivation of the turnip, as so much must depend on the state of the weather and the size of the plants when fully grown. In a fortnight or three weeks after the first thinning has been done, the laborer must again pass through the field in dry weather (for no operation in the turnip-crop should be attempted in wet weather), and remove such weeds as may have sprung up in the interval, trimming the earth round each plant, and at the same time cutting out any unnecessary plant which had escaped his previous notice; for if left too thick, or if there are two or more together, they will grow up slender and weak, and not swell at the roots.

After this the ground may be drilled or shuffled with a hoe in order to loosen its surface and kill the weeds. When the plants have made tolerably large bulbs, a double mould-board plow is sometimes passed between the rows for the purpose of ridging them, and earthing up the plants. This will serve to keep the ground dry, if the soil is naturally moist, and assist the growth of the plants, the rapid progress of which will soon afterwards cover the intervals, and prevent the further growth of weeds.

Accidents, &c.—The turnip in this country, as well as in Europe, is liable to several diseases, the most formidable of which with us, perhaps, is a striped flea-beetle, or fly (*Haltica striolata*, Harris), appearing early in May, and continuing more or less abundant throughout the season. It is very injurious to the young plants, devouring their seed-leaves as soon as they expand. This insect, in time, it is thought, may become as great a pest in this country as the turnip flea-beetle in Europe, which it greatly resembles in its appearance, and in all its habits. Various expedients have been adopted to check the ravages of the latter, although no specific remedy has as yet been discovered. A mixture of equal proportions of quick-lime and soot, however, strewn along the drills, at the rate of six or eight bushels per acre, and dusted over the plants when wet with dew, at the time the insect appears, is considered to be of great use in checking the evil. At any rate it certainly promotes the growth of the plants, and perhaps forces them beyond the injury of the fly.

The leaves of the turnip are also preyed upon in the Northern States by a pale-green caterpillar, the larva of a white butterfly (*Pontia oleracea*, Harris), which makes its appearance by the last of June, and is found at intervals until the beginning of August. These caterpillars do not devour the leaf of the turnip at its edge, but begin indiscriminately upon some part of its under side, through which they eat irregular holes. In gardens or fields, infested by these caterpillars, boards placed horizontally an inch or two above the ground, will be resorted to by them, when they are about to change to chrysalides, when it will be easy to collect and destroy them.

The bulbs and roots are sometimes attacked by worms of different kinds; and when they commence their ravages at an early period, they impede the growth, and ruin, or greatly injure the crop. Hitherto, no certain remedy has been ascertained for destroying these depredators; but it has been suggested that their ravages may be prevented by manuring the soil with wood-ashes.

Plowing with Elephants.—It is stated that in Ceylon, elephants are employed in plowing rice-fields and in preparing new grounds for the cultivation of coffee, pepper, &c. One of these animals, well trained, it is said, will do the work of twenty oxen; consequently more labor is performed in a given time, and the period is hastened for putting in the crops. The price of an elephant in Ceylon varies from \$50 to \$75. Could not the elephants exhibited in the caravans in this country be more profitably employed in plowing our prairies of the West?

THE AMERICAN EGG-HATCHING MACHINE.

THE principles of incubation, or bringing forth chickens from the egg, by artificial heat, have long been understood by the Egyptians, and is practised by them to a great extent, at the present day, in large ovens, the temperature of which is raised to the requisite heat; and in France, Italy, and elsewhere, the same principles have been carried out with more or less success. But in no instance has the art been brought to so perfect a state, particularly on the score of economy or simplicity, as by the apparatus recently patented in the United States, by Mr. L. G. Hoffman, the internal arrangement of which is denoted in Fig. 55.

During the past season, this machine has been constantly kept in operation, in this city, and examined by a large number of practical and scien-

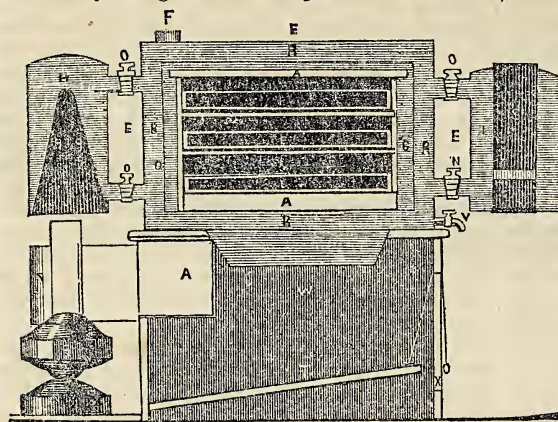


FIG. 55.

tific men, who have strongly attested to its usefulness and general adoption. It is constructed of tin or other materials, with the brooding-chamber surrounded by water, warmed to a suitable degree of temperature, by a spirit-lamp, which may constantly be kept burning for less than 10 cents a day. The apparatus is so simple in its construction and management that a child can superintend its operation, without losing more than two hours time in a day, and requires no attention during the night, after 10 o'clock.

The machine does not exceed two and a half feet square, and is capable of hatching from 200 to 600 chickens at a time, with a loss of not more than two per cent., if the eggs are perfect. Price from \$20 to \$40.

THE DOMESTIC FLORA OF CHINA.—NO. 2.

THE botany of Hong-kong, or the "Island of Fragrant Streams," possesses a considerable degree of interest, at least would have done so some years ago, when the plants indigenous to it were less known than they now are. By far the most beautiful plants met with on the low ground, are the different species of *Lagerstræmia*. There are two or three varieties, having red, white, and purple flowers, and in the summer months, when they are in bloom, they are quite the hawthorns of China; surpassing, in their gorgeous flowers, even that beautiful family.

It is a curious fact connected with the vegetation of Hong-kong, that all the most ornamental flowering plants are found high up on the mountains, from a thousand to two thousand feet above the level of the sea. In the northern parts of China, such as Chusan and the mountainous country near Ning-po, the same description of plants are indigenous to less elevated situations, and there, on the tops of the hills, we find little else than species of grass, wild roses, and violets, thus showing how plants accommodate themselves to the climate, by choosing a higher or lower altitude as the climate in which they are placed may be hot or cold. All the beautiful plants indigenous to Hong-kong, with the exceptions already pointed out, grow and flourish high up amongst the hills. Several species of *Azalea*, a plant now so well known in England, are found covering the sides of the hills at least fifteen hundred feet above the level of the sea, and they are not met with at all at a low elevation on the same hills. The *Polyspora axillaris* grows in the same situations, and another plant, perhaps the most beautiful of all; I mean the *Enkianthus reticulatus*. This plant is very highly prized by the Chinese. It flowers in February and March, about the time of their new year, and they then bring the branches down from the hills in great quantities for the decoration of their houses. The flowers are unexpanded when they are gathered, but by being placed in water, they very soon bloom in the houses, and remain for more than a fortnight as fresh and beautiful as if they had been taken up with their roots in the most careful manner. Even the more beautiful amongst the native orchids are only found at a considerable elevation. The tops of the highest hills are covered, in the summer and autumn months, with the purple *Arundina sinensis*, and the yellow *Spathoglottis fortunei*.

The gardens of the Mandarins in the city of Ning-po are very pretty and unique; they contain a choice selection of the ornamental trees and shrubs of China, and generally a considerable number of dwarf trees. Many of the latter are really curious, and afford another example of the patience and ingenuity of this people. Some of the specimens are only a few inches high, and yet seem hoary with age. Not only are they trained to represent old trees in miniature, but some are made to resemble the fashionable pagodas of the country, and others different kinds of animals, amongst which the deer seems to be the favorite. Junipers are generally chosen for the latter purpose, as they can be more readily bent into the desired form; the eyes and tongue are added afterwards, and the representation altogether is really good. One of the Mandarins of Ning-po, anxious, I suppose, to confer some mark of especial favor upon me, presented me with one of these animals—plants, I should say; but as it was of no real use to me, and as my collections of other things were large, I was obliged to decline his present, which he evidently considered of great value, and no doubt wondered at my want of taste.

Another example will show the passion which exists amongst the Chinese for things of this kind. When I was travelling on the hills of Hong-kong, a

few days after my first arrival in China, I met with a most curious dwarf *Lycopodium*, which I dug up and carried down to Messrs. Deht's garden, where my other plants were at the time. "Hai-yah," said the old compradore, when he saw it, and was quite in raptures of delight. All the other coolies and servants gathered round the basket to admire this curious little plant. I had not seen them evince so much gratification since I showed them the "old man Cactus" (*Cereus senilis*), which I took out from England, and presented to a Chinese nurseryman at Canton. On asking them why they prized the lycopodium so much, they replied, in Canton English, "Oh, he too muchia handsome; he grow only a leete and a leete every year; and suppose he be one hundred year ould, he only so high," holding up their hands an inch or two higher than the plant. This little plant is really very pretty, and often naturally takes the very form of a dwarf tree in miniature, which is doubtless the reason of its being such a favorite with the Chinese.

The gardens of the Mandarins at Ning-po were extremely gay, particularly during the early months of the year; and, what was of more importance to me, contained a number of new plants of great beauty and interest. On entering one of the gardens on a fine morning in May, I was struck with a mass of yellow flowers which completely covered a distant part of the wall. The color was not a common yellow, but had something of buff in it, which gave the flowers a striking and uncommon appearance. I immediately ran up to the place, and, to my surprise and delight, found that it was a most beautiful *new double yellow climbing rose*. I have no doubt, from what I afterwards learned, that this rose is from the more northern districts of the empire, and will prove perfectly hardy in Europe. Another rose, which the Chinese call the "five-colored," was also found in one of these gardens at this time. It belongs to the section commonly called China roses in this country, but grows in a very strange and beautiful manner. Sometimes it produces self-colored blooms—being either red or French white, and frequently having flowers of both on one plant at the same time—while at other times the flowers are striped with the two colors. This will also be as hardy as our common China rose. *Glycine sinensis* is often grown on a flat trellis in front of the summer-house, or forms a kind of portico, which affords a pleasing shade. Entwined with one of these trees, I found another variety, having very long racemes of pure white flowers, which contrasted well with the light blue of the other.

THE STOCK OF COL. SHERWOOD.

In June I took an excursion to Auburn, for the purpose of being present at the shearing of the Merino flock of Col. John M. Sherwood. I know of nothing that contributes more to a just appreciation of sheep than to witness their shearing, when properly done. As Col. Sherwood is about to have a large public sale, both of cattle and sheep, my object was double, to see not only the sheep, but the cattle also. I found there a large herd of cattle. The catalogue of those offered for sale, numbers forty-eight; forty-one of which are pure Short-Horns. Col. Sherwood has been breeding some years, and now having more stock than he

desires to keep offers them for sale. Your readers will have noticed his advertisement in July and August Nos. His original stock were derived from the herds of Francis Rotch, Lewis F. Allen, Thomas Hollis, Thomas A. Newbold, and the late Stephen Van Rensselaer.

The originals of his herd are all now living, and are Stella (a frequent winner of prizes), bred by Mr. Rotch; Pansy, bred by Mr. Van Rensselaer, also a winner; Delight, from the herd of Mr. Allen; Lilly, from the herd of Mr. Newbold. His bulls have been Archer bred by Mr. Rotch; Arrow, by Mr. Hollis; Symmetry, by Mr. Geo. Vail; and Pontousic, by himself. The first three named have all been winners at the State shows. Symmetry is descended directly from the herd of Mr. Bates in England, Mr. Vail who bred him having imported both his dam and sire from Mr. Bates.

On looking over the cattle we were struck with the fact that all the cows that had calved some weeks or months since, were in moderate flesh and had large bags; while all the cows yet to calve, were in high flesh, giving also good promise of milk. This is a good indication; showing that the herd combines both the milking and feeding property. The cow that will make flesh when dry, and grow thin in milk, will both feed and milk. This point Col. Sherwood seems steadily to have kept in view, and in his selections to have attained, and in his breeding, to have preserved it.

Stella and her two daughters, Sylph and Sibyle, are all good milkers.

Delight, and all her daughters, are good milkers, and one, Dahlia, very superior. Col. Sherwood offers a heifer, got by Mr. Vail's very fine bull Meteor, out of Dahlia; she would be a desirable possession to any breeder. Norna (another strain), bred by Mr. H. S. Randall, is a plain cow but a great milker.

The finest cow in the catalogue, is doubtless Philapena (daughter of Pansy), and by Archer. She is of high excellence in every particular, and a great milker. Her daughter, Potawatamie, with her first calf, is now giving twenty quarts per day. This strain is very superior in its milking property. Pansy, the original cow, is Col. Sherwood's best milker.

Pontousic, a young bull by Symmetry, out of Philapena, is characterized by high style and fine handling. He would, as he now promises, be a great acquisition to any herd, and especially in point of milking property.

The descendants of Lilly will make with herself a grand display at the sale. Lilly is the best cow in the herd; and who, it might be asked, has a better? Her daughters are all distinguished by their fine style and superior milking character.

The calves of this year are all got by Symmetry, and are a superior lot. They exhibit the special characteristics of the Bates blood—deep, full bristles—in an eminent degree.

Here is an opportunity to all who desire to obtain fine Short-Horns, to do so; and those who would procure animals of milking families, may be sure to find them in this herd.

My visit was made at this particular period, to witness the shearing of Col. Sherwood's flock of Merinos, as he will, at his sale, offer nearly 200.

The system of shearing adopted by Col. Sherwood is admirable. It not only exhibits the fleece well, but by a proper register, every fleece, and every sheep producing it, are known. The fleece, when shorn, is carefully put up by itself; the animal from from which it came, is numbered and marked, and the fleece registered. Thus the register shows what each particular sheep on the farm produced; the quality of the wool and its quantity.

As a sample of the shearing of the flock this year, the following list of bucks which are to be sold, may be taken. In the register opposite each number and fleece, the quality is marked in addition to what is here printed.

No.	Age.	Weight of fleece, 1847. 4 lbs. 8 oz.	No.	Age.	Weight of fleece, 1847. 4 lbs. 2 oz.
1	1		33	1	
2	2	7	34	1	3 12
*3	7	5 4	35	1	5 6
*4	4	6	36	2	6 2
*5 not offered.			37	1	3 8
*6 do			*38	1	4 14
7	1	7 8	39	1	4 14
8	1	5 12	40	1	3 10
9	1	4 2	41	1	3 10
10	1	2 5	42	8	6 12
11	1	4 9	43	1	3 7
12	1	3	44	1	3 4
13	1	4 8	45	2	8 7
14	1	4 12	46	2	6
*15	4	8	47 not offered.		
16	2	4 6	48	1	3 9
17	1	4 10	49	1	4 7
18	2	5 11	50	1	4 2
19	1	3 8	51	1	5 3
20	1	3 12	52	1	4 7
*21	3	9 3	53	1	4 4
22	1	4 2	54	1	4 4
*23	1	5 6	55	1	4 4
24	1	3 12	56	1	5 3
25	2	6 12	57	1	4 4
*26	7	8 8	58	1	4 10
27	1	4 10	59	2	5 6
28	1	5 7	60	1	4
29	1	3 11	61	1	4 6
30	2	7 4	62	2	5 10
31	1	4 8	63	2	6 8
*32	3	7 14	64	1	3 9

These bucks will all be sold except three. They were all bred by Col. Sherwood, except those marked with a star.

Col. Sherwood's flock consists mainly of sheep, derived from the flock of J. N. Blakeslee, of Watertown, Conn. All rams in the above list are descended from this tribe, except those marked with the star, and were got by the rams, Yankee and Pedlar, bred by Mr. Blakeslee, out of ewes derived from him, or by Grandee, bred by Mr. D. C. Collins, of the Rambouillet sheep, imported by that gentleman, out of Blakeslee ewes.

These sixty-four rams sheared three hundred and forty pounds, six ounces, clean washed, and well tagged wool. Of these, forty-four were yearlings, eleven two years old, and nine of full age. They sheared an average, old and young, of five pounds five ounces each.

The Blakeslee ewes, one hundred and ten in number, sheared four hundred and forty-three pounds, seven ounces wool; clean, washed, and averaged four pounds one and a half ounces each, old and young.

Col. Sherwood has a family which he derived from a Mr. Yates; these, twenty-two in number, all three to five years old, sheared one hundred and six pounds, eight ounces, and averaged four pounds, nine ounces each, of clean, washed wool.

The balance of the flock consists of sheep in part derived from Mr. Jewett, of Vermont, thirty-eight

in number. They sheared one hundred and thirty pounds, twelve ounces, and averaged three pounds, seven ounces of clean, washed wool, each, old and young.

The wool of the Blakeslee tribe was beautifully fine and even. This tribe of Merinos are now well known all over the United States. Samples of whole fleeces may be seen at 187 Water street, New York.

Col. Sherwood has now been in possession of the Blakeslee sheep for three years. In that time they have steadily improved both in the size of their carcasses and the quantity of wool. They are a most valuable tribe of Merinos.

He has taken six clips in all, and has sold them at forty cents, except that of 1846, which was sold for thirty-nine cents, all delivered at his house. The clip for 1847 is unsold, and would bring forty-three cents. A. S.

We solicit attention to Col. Sherwood's sale of cattle and sheep. We have so often expressed our views as to the sheep of Mr. Blakeslee and the Rambouillet tribe, that they are well known. No better Merinos are now to be found in our country, than those possessed by Col. Sherwood. We shall be happy to furnish catalogues of the sale to all who desire, and to exhibit the beautiful fleeces now in our store, to all desirous of inspecting them. This sale deserves a full and general attendance on the part of breeders, and we hope Col. S. will be liberally countenanced for his public spirit in getting it up. Let it be remembered that all the animals offered, will be sold without reserve.

NEW YORK FARMERS' CLUB.

The next Annual Fair of the American Institute.
—The Secretary announced to the Club that the Managers of the Institute have obtained the use of Castle Garden, for the twentieth Annual Fair, to be held in this city in October next. All citizens, who set a value upon the works of American genius and industry, are requested to take early notice, that everything which they wish to exhibit to their fellow citizens, may be promptly ready. All articles for competition at the Fair, must be deposited at Castle Garden on the first or second day of October next, at furthest. This, he said, would be necessary, in order to give the managers an opportunity to arrange all articles, so as to do the exhibitors full justice.

Rose-Bugs Destructive to Apples.—Mr. John Lodge, of Westchester, exhibited a bunch of wine-apples, half eaten by the common rose-bug. It was stated that nearly his whole crop of apples will be ruined by them. He recommends throwing unslacked lime over the trees in order to kill these insects. (a)

Plum-Trees Killed by Salt.—A communication was read from Mr. R. L. Colt, of Patterson, N. J., in which he states,—“I have heard much said of the benefit of salt applied to plum-trees. I have tried it, dressing the surface four feet in diameter around my trees. I used salt from packing houses, for I am an economist, but this salt contained also a considerable quantity of saltpetre. This dressing killed three out of four of my young plum-trees.” (b)

(a) The increase of insects, this year, particu-

larly those which prey upon our fruit-trees and field crops, is truly alarming. In a letter from Mr. B. V. French, of Braintree, Mass., he says, "I never recollect such a year for insects. We have multitudes of them, rose-bugs in particular." In some recent excursions on Long Island, and elsewhere, we have uniformly observed that the foliage of the apple-trees is infested by myriads of plant-lice (Aphides,) which have already destroyed much of the foliage and fruit. The sprinkling of powdered quick-lime upon the leaves, when wet, it is said, will destroy them.

(b) Common salt, it is well known, has been employed from time immemorial for the destruction of vegetation, and producing complete sterility in a soil. Among Eastern nations, for a long period of time, when a conquered city was condemned to desolation, it was sown in large quantities among the ruins and their vicinity, proclaiming the will of the destroyer, and announcing that the country should remain uninhabited, without cultivation, and devoted to eternal sterility. When applied in moderate quantities, to the roots of fruit-trees, growing in a rich soil, containing much dung, and animal or vegetable matters, salt undoubtedly assists vegetation, and destroys many kinds of living insects, such as snails, slugs, worms, &c.; but on poor soils, it is extremely injurious to vegetation, even in small quantities, and should never be used in large quantities, however rich the land may be. We think the quota used by Mr. Colt was too great; for the proportion of saltpetre was so small, that it could have done no injury to his trees, as this substance is known to have great effect in promoting vegetation, and is often employed in considerable quantities, as a steep for corn, wheat, and other grains. Its high price only precludes its use as a general manure.

CISTERN FOR FARM-BUILDINGS.

PURE, wholesome water, as a constant beverage for man or animals, is essential to sound health. Its relative salubrity depends on the various animal, vegetable, or mineral particles, with which it may be impregnated, and the places whence it is procured. The transparency or purity of that obtained from wells or springs, varies according to the strata of earth through which it percolates. The most wholesome fluid is derived from springs issuing from pure sand-stone or primitive rocks, or from sandy soils, principally composed of granite or quartz, where it has undergone a perfect filtration. The water of lakes and ponds has similar properties in general, as that of rivers or brooks, but being less agitated, and containing more organic matter in a state of decomposition, it acquires a greater degree of impurity, and consequently is less fit for culinary use; though, on account of its softness, it may be employed with advantage for washing clothes.

Rain-water collected in the vicinity of cities or populous towns, as well as in the neighborhood of marshes or mines, especially during summer, is always more or less impure. Therefore it should not be used, if it can be avoided, except for washing linen, &c., or watering plants, unless it be purified by filtration or other means. The fluid obtained by dissolving snow is somewhat purer; but of all

natural waters, that obtained by melting hail is the most pure, as it contains fewer extraneous particles, in consequence of its congealing high in the air; so that it cannot combine with noxious ingredients during its descent. Like all water, however, which falls from the clouds, it contains minute quantities of air, carbonic and nitric acids, carbonate of ammonia and other salts.

Well, or pump-water, is generally less pure than any of the preceding, as it frequently contains large quantities of carbonate or sulphate of lime, which are the cause of its "hardness," and the property of curdling soap. In all large towns, that have long been inhabited, the wells are generally rendered unfit for use, in consequence of the ground having been tainted by church-yards, vaults, and other nuisances, which, doubtless, is the cause of much suffering, and even of the shortening of life itself. Therefore, in all regions where lime-stone or other impurities in the soil abound, or where the farmers unavoidably have to sink their wells to a great depth, we would recommend the construction of cisterns near all of the principal farm-buildings for retaining the water which may fall from their roofs. By this means a large supply of wholesome water may be had all the year round, at a comparatively small cost, which will not only be essential in all purposes about the house, but will be found useful in irrigating the garden, as well as for the watering of stock.

The most convenient and durable mode of constructing a cistern, is, to make it of a circular form, under ground, with the bottom and sides lined with stone or bricks laid in hydraulic cement; and in many cases mortar may be plastered directly on the sides of the pit without the aid of bricks or stone. A cistern, eight feet in diameter and nine feet deep, will hold about one hundred barrels, and will require three thousand four hundred bricks to face its sides. The cement to be employed should be of first-rate quality, such as that used in the construction of the Croton aqueduct, or the Erie canal. If this cannot conveniently be obtained, a very good article may be made of four parts brick-dust, finely screened; eight parts fine, sharp, fresh-water sand; twelve parts lime completely slacked by burying in the ground, so as to exclude the air during the process of slacking; three parts powdered quick-lime, newly burnt; and three parts powdered charcoal. First, mix the slacked lime, brick-dust, charcoal, and sand, with water sufficient to make a mortar thinner than usual; then sprinkle in the quick-lime. Mix well with a trowel, and use immediately, as it will soon grow stiff and hard.

Cisterns should be completely covered with planks or stone, so as to exclude all insects, leaves, and dust. If the buildings be situated on a hill-side, it would be preferable to conduct the water to the place where wanted for use by means of a pipe, without the labor of pumping, or lifting it out by hand.

N. Y. STATE AG. SOCIETY.—At the meeting of the Executive Committee, July 8th, the judges were appointed for the next show to be held at Saratoga, in September; but as many of the persons for various reasons cannot well act, and others are obliged to be substituted for them, we do not publish the list.

THE HORSE.—No. 6.

OUR cut this month presents the hind quarter of the horse, which consists of the haunch, the thigh, and second or lower thigh.

THE HAUNCH. It is formed by three bones, the *ilium*, the *ischium* (or hip bone), and *pubis*. They are shown in the cut No. 11, February No., at *u*. The great point in the shape of the haunch is that the *ilium* should be quite oblique to the horizontal line of the body. If it be too near the perpendicular line of the body, it makes the leg too straight and power of leverage is lost. Hence it is desirable that the tail should be placed well up, as there will be greater obliquity of the haunch. This obliquity affords the muscles a better direction for action. It is very important that there should be great width of haunch, that the muscles may have more surface for attachment, and thus be large. With a wide haunch, it will be found that most commonly are connected wide loins; and if the ribs be round and come back well, there will be great strength.



MUSCLES OF THE OUTSIDE OF THE THIGH.—FIG. 55.

THE THIGH. It consists of one bone inserted at its upper end into a socket in the lower part of the hip bones. It is oblique backwards. The thigh-bone has a rounded head, which is inserted into this cavity. The socket is very strong, as the three bones of the haunch are very firmly dovetailed together. The ligaments, which hold the head of the thigh-bone in its appropriate socket, are all large and strong, and one of a remarkable character covers the whole joint starting from the upper surface of the cup (which is of course inverted), and passing down over the joint to the head of the bone

just below the line or insertion of the head into the socket. This admirable joint, with its securing ligaments, makes it very difficult to dislocate or injure the thigh bone, at that point. The thigh bone is very large and strong, being short and thick. It has an uneven surface, and presents thus a greater opportunity for the attachment of muscle. The muscles that belong to it are numerous, and need great surface for attachment. Four of these attaching points are peculiar in the thigh. One is at the head, one on the inside, and two on the outside.

The motion of the thigh is mainly in a right line backwards and forwards, when extended forward and carried back. It has, however, some lateral and rotary motion.

The lower end of the thigh bone is peculiar, being double-headed instead of single. It has two projections, which have corresponding grooves to move in, in the upper end of the leg bone.

The joint formed by the union of the thigh bone and the leg bone is called the *stifle* joint. There are two shallow cavities or sockets in the upper end of the leg bone into which the double head of the thigh bone is inserted, and in which they move. There is a hollow in the front of the lower end of the thigh bone; into this hollow fits, and through it moves a small bone similar to the knee bone of man. This small bone is called the *stifle* bone. It sets on to the stifle joint in front. Into the stifle bone are inserted by tendons some of the strongest muscles of the thigh, and continued over it to the bone of the leg. By this arrangement the stifle joint is greatly strengthened. In repose the stifle bone lies in its proper groove, but when the muscles act it is raised up and the line of direction of the muscles altered and their power increased by the increased angle made by the elevation of the stifle bone.

The leg bone or bone of the lower thigh extends from the thigh bone to the hock; it is formed of two parts, or is double; the first and main part is the bone of the leg; behind this and joined to it by cartilage is a small bone of one third its length called the *splinter* bone. The leg bone is oblique backwards, making an angle with the thigh bone.

The leg bone should be long, as by greater length is got greater leverage. By it also will the mass of the muscles of the part be increased, if properly developed, and thus muscular power be enlarged.

The muscles of the quarters are remarkable for their great size individually, and their mass as a whole. Under the skin they are covered with an outer and inner membrane, each of which is dense, strong, and tendinous. The outer one reaches from the haunch to the hock, the inner one from the haunch to the stifle. Its purpose is to confine the muscle, in their proper places when in action.

a. At *a* is seen the *external* buttock or *gluteus* muscle (so called by anatomists) in the centre of the external part of the haunch. It is triangular in shape, and is attached to the ilium above and to the thigh bone below.

c. Here lies the *great* buttock or *gluteus* muscle. It starts from the bones of the loins, is attached to the ilium and to the bone of the thigh, near its joint with the haunch. It constitutes the upper and outer part of the haunch, and gives fullness and roundness to it. Upon its full development depends the beauty and much of the strength of the haunch.

Still another buttock or *gluteus* muscle not seen in the cut starts from the ilium, and proceeding to the thigh bone, is there attached.

These muscles, having an important office, are large, and are attached to a large surface. They are placed to act at a right angle nearly, the direction of greatest power. When the thigh is brought under the body, these muscles extend the haunch forward, and thus propel the body; and for this purpose the great *gluteus* is the most powerful.

e. At *e* is seen the double headed muscle of the thigh, at the rear outer part of the thigh. It is very prominent, and easily traced through the skin. It arises from the bones of the back, from the bones near the root of tail, from the hip bone, and some of the bones of the pelvis. It has two divisions acting in opposite directions. The one extends the thigh backwards, the other projects it forward.

f. Here lies a muscle (called comb-like). It forms the hind curve and volume of the thigh, and contributes much to its bulk. It is an extending muscle, and one of the most powerful. It lifts and bends the leg.

g is a tendinous expansion connecting with muscles on the inside of the thigh at its lower end near the hock, which acts to bind and strengthen all the muscles which it overlies in its own part of the quarter.

h is an extending muscle of the leg.

i is the external part of the straight muscle of the thigh. It springs from the outer surface of the thigh bone, and is inserted into the upper part of the bone of the stifle. It is of great size, and occupies all the outside of the forepart of the thigh from the stifle upwards. It is an extensor of the thigh, and the leg generally. It does not act to advantage, on account of the angle of its direction, but it is large, and so becomes powerful.

j is a powerful muscle springing from the head of the thigh bone and from the middle of the bone of the leg, and inserted by a tendon into the point of the hock. It extends the hock.

k is a slender muscle arising from the head of the splinter bone; it proceeds over the other external muscle of the part, and becoming a tendon near the hock, unites with the tendon of the perforating muscle.

m is another extending muscle. It springs from the splinter bone. Near the hock it becomes tendon, and passing over it, is attached to the bones of the foot. It acts with other muscles to raise the foot and bring it forward under the body.

n is an important muscle, being the principal extending one of the hind leg. At its upper end it is a flat tendon; passing over the leg bone it becomes fleshy, and again changes to tendon, and joining *m* goes down in front of the hock, and continuing down is inserted into the bones of the foot. It assists to bend the hock, as well as extend the foot.

o is the extending muscle of the foot. It begins at the upper end of the bone of the leg. It is a large round tendon at the hock, and it enters a groove at the back of the hock. It is the perforating flexor muscle of the hind leg, and passes down the back of the leg and attaches itself to the pastern and fetlock. It assists in bending the pastern and fetlock.

p gives the course of the outside arteries and veins.

q shows the course of the principal nerves.

r. At *r* are muscular bands which hold all the tendons firmly in their place on the hock.

Our next cut will exhibit the muscles of the inner side of the thigh, and will finish our view of the bones and muscles of the horse.

CULTURE OF THE SUGAR-CANE.

THERE are three varieties of the sugar-cane cultivated in the United States. The *Creole* was first raised in Louisiana by the immigrants from the West India Islands. It is the smallest, but yields the richest and most valuable juice. The *Otaheite* was introduced into Georgia early during the present century, from the Sandwich Islands, and within a few years after, was carried from that State into Louisiana. It produces a large, luxuriant stalk, yielding profusely in juice, which is, however, much inferior in quality to that from the *Creole*. The *blue-ribbon*, brought to this country from Jamaica, subsequent to both the others, is beautifully variegated with regular longitudinal stripes of blue and yellow, alternating in direction between each joint. It yields a juice of medium quantity and quality; but being by far the hardest, it has usurped almost the entire sugar plantations of this State. Each of these varieties has undoubtedly originated in the East Indies, where the cane has been cultivated from time immemorial.

It was formerly the practice to plant the cane in rows, from $2\frac{1}{2}$ to 4 feet apart, and it is perhaps owing to this, and the careless system of culture, that the *Creole* may have degenerated and become the pigmy plant we now see it. A more rational system has been adopted for many years, by the most intelligent planters, and by them the rows are seldom permitted to be nearer than 8 feet. This is attended with many advantages. The rows contain three, and in some instances four parallel lines of plants, which furnish a greater number of stalks per acre than the more closely planted. They afford room for burying the *trash* (the worthless tops cut from the cane in the fall and destitute of saccharine matter), and the *bagasse* (the residuum of the cane after expressing the juice), between the rows, where it can lie undisturbed in the soil till decomposed. The sun and air have free access through the field, both of which are of vital importance in giving the fullest development to the plants; and finally, they allow of the use of the two-horse plow, by which a deeper furrow is made, the grass and weeds are more effectually turned under and destroyed, and a more thorough pulverization of the soil is effected, all of which is accomplished with the same expenditure of the animal, and with half that of the human labor employed with the single horse. Where deep plowing is not required to be repeated, but the destruction of weeds and grass is the only object sought, the greater width of the rows permits the use of the *three-share plow*, or a large steel-tooth or other *cultivator*,* by which one laborer will get over six acres in a day instead of two only with the plow. In fields suited to it, this practice has been adopted, the present season, with

* The steel-tooth cultivator is a new and very superior article, admirably adapted for cane as well as all other kinds of culture. It can be had at our agricultural ware-house, 167 Water st.—Price \$7. 50. Ed.

some of the New York implements, and has been attended with the most satisfactory results.

In preparing the land for cultivation, after providing a sufficient number of deep ditches as before described (page 173) the surface is deeply turned over with four-horse plows. Sometimes this is done by a huge plow, called the *giraffe*, requiring six good animals to move it. The intended bed for the cane is then excavated to a depth of 4 or 6 inches, with a wide *fluke*, or *double-mould-board* plow, leaving a furrow 8 to 12 inches wide. The more careful planters then clean out this by hand, and place three or four rows of the *best plant* in parallel lines 4 inches apart, lapping each and arranging them so that the eyes which occupy opposite sides may germinate horizontally, and shoot upward at the same time, thus giving evenness of growth to each stalk. Some planters have occasionally found some of their best cane from planting 6 or 8 parallel lines of the *tops* in each row, but this is an uncertain result, and is seldom resorted to, except from a deficiency of good seed cane. They are then covered with light mould. The planting may be commenced in December, and should be completed early in March. If done during the winter, protection from frosts requires that they be covered to a depth of 4 or 5 inches. On the approach of warm weather, this earth is removed within an inch or two of the cane, at which depth it is covered if the planting is deferred till this time. This is done to promote early germination, which is of great importance to secure a satisfactory maturity of the cane in this climate.

After the young shoots appear, the fine earth is gradually brought around and over it, and the plow is used for turning the furrow towards the rows. This operation is repeated as often as is necessary to keep the land sufficiently light and clear of weeds, and gradually lead the soil to the roots. When the cane has acquired sufficient growth to shade the ground, the final operation of ridging up, or *laying by* the crop, is performed with the plow and hoe. The cane ought to be so forward as to admit of this by the middle of June. The depressions between each row, when thoroughly cleansed, serve as drains for the surplus water. During all this time the minute spaces between the plants are kept perfectly free of weeds by the use of the hand hoe.

The cultivation of the *rattoons*, which are the second, or any subsequent year's growth after planting, is somewhat different in the earlier operations. The trash, or cane-tops, are thrown upon the rows when cut, in the autumn, and allowed to remain as a protection against frost, during the winter. On the approach of spring, they are raked off. Many then use a cumbersome machine for paring and removing the top earth of the rows of cane, to give access to the sun, and cut close to the healthy, vigorous part of the plant; and to give early growth, the earth is also *barred* off or removed by running the land-side of the plow as near the roots as possible without injury. If not previously done with the machine, the tops are then cleared off with the hand hoe as near to the crown of the cane as may be done without risk from frost, say within an inch or less. The subsequent operations are similar to those with plant cane.

In the East and West Indies, Mexico and other

climates not subject to frost, the cane will continue to thrive for 10 or 12 years from a single planting; and even in Louisiana and especially on new land, in its southern extremity, it will occasionally produce 4 or 5 years, and sometimes longer, from the original stock. Col. White informs me his *rattoons* have sometimes produced as fully in the eighth season as during any previous one. This, however, is a rare exception in this climate, and from the rapid decline in products, after the third year, it has become a general system in the State, to allow the cane to remain in the ground three years, one as *plant cane*, and two as *rattoons*. Where the land has been planted for many years and become somewhat exhausted of its original vegetable matter, it is usual to throw out one-fourth of the land for rest or renovation, when corn and the cow-pea is planted with whatever manure is at hand. The corn and a few of the peas are gathered, and the remainder plowed in; or the whole ground is sown with peas, when, if turned in before fully ripe, the season is sufficiently long to mature two crops, which with the luxuriant growth they afford, makes a large addition to the carbonaceous matter in the soil. Two crops of corn, thickly drilled or sown broad-cast, may be matured sufficiently for this purpose, in a season, and would probably yield a greater quantity of vegetable nutriment for successive crops.

The amount of the salts or inorganic matters taken from the soil by the cane is so small that exhaustion from its continued cultivation on rich lands is very slow, and even this can doubtless be prevented, by burying the entire plant after expressing the juice. The quantity of plant per acre is frequently enormous, and may sometimes reach beyond 30 tons of fresh-cut cane (inclusive of trash) per acre; yet if all the solid part be returned to the land, nothing is exhausted but what may be again absorbed by the growing plant, from every passing breeze and every falling shower. The elements of water and carbon make up more than $\frac{990}{1000}$ of the entire sugar-cane. Herapath found that 1000 grains of the cane when burned, left but $7\frac{1}{2}$ grains of ash, which was made up of inorganic bases in nearly the following proportions, viz.; silica, 1.8; phosphate of lime, 3.4; oxide of iron and clay, .2; carbonate of potash, 1.5; sulphate of potash, .15; carbonate of magnesia, .4; and sulphate of lime, 1.

Cane and rice, which are undoubtedly the two most profitable crops in the United States, have this other vast advantage over almost all others, except those of grazing lands. They scarcely diminish the value of the soil when rightly managed, at the same time that they make a large annual return in their products. The water with which the rice lands are flooded brings to the growing plant almost every principle that it appropriates, and especially if this is brought from a running stream, which is often highly charged with fertilizing sediments; and in every case holds more or less of those salts in solution, that are necessary to the crop, and would otherwise have to be drawn from the soil. Sugar, on the other hand, like nearly all crops that do not produce seed, except tobacco, takes very little from the soil except what is drawn indirectly from the atmosphere; and by burying the refuse of the plant, even that little may be restored

unimpaired, whence it was taken, and materially aid in effecting that mechanical division of the soil so essential to its utmost productiveness.

Lime is destined eventually, as I think, to have a largely beneficial influence on the product of the cane. Its efficiency in securing an early vegetation and rapid growth, both from its chemical and mechanical agency, must render it a most desirable auxiliary in the cane, which is sometimes seriously injured by the late frosts of spring and the early ones of autumn. A plantation, by far the most productive which is in the State, for the number of its cultivated acres, contains large quantities of the shells that here and there abound on the banks of the bayous and lakes that pervade the Delta. These are profusely scattered through the soil in every state of decomposition; and it is to their presence that the greater certainty and amount of the crop is mainly ascribed.

The subsoil plow has been introduced on the cane-fields with the most marked success. It is not used on such new lands as are still occupied with undecayed roots; but wherever it is free from them, it is employed by the most intelligent planters, and so far as I am informed, with unqualified approbation. It is made to follow in the furrow of the breaking up plow, still further to deepen the pulverised bed for the roots; and by many, it is now made to loosen the soil between the rows, and thus open numerous imperfect under drains, which serve to lead off the surplus water to the main ditches; while their influence is scarcely less beneficial in a time of drought, in securing a more copious deposit of dew and atmospheric vapor, and promoting the ascending moisture from beneath.

A system of *thorough* or *under-draining*, if connected with wheel surface draining, so as to give sufficient depth for the unobstructed outlet of the pipes, may even at this early day, in my opinion, be adopted with the fullest remuneration for the capital and labor employed. Several of the most enterprising and intelligent of the planters seem very willing to listen to suggestions on this subject. I shall endeavor to procure the fullest information as to the expense and best method of constructing the tile or tube drains in the course of the ensuing season; and if I can satisfy myself that the expense and advantages will justify the enterprise, some of my friends here will readily give the matter a full and impartial trial. I defer an enumeration of the advantages of this practice, till I have that additional information, which will enable me to couple with them the best and most efficient plan for their direct and economical application.

R. L. ALLEN.

New Orleans, May 22d, 1847.

DIRECTIONS FOR MAKING YOUR OWN SEIDLITZ AND SODA-WATER.

In looking over the January number of the Agriculturist, I observe, that, in the directions for making Seidlitz-powders, the proportions and ingredients to be employed, are not in accordance with those generally practised by druggists in this city. Therefore, I would recommend the following, with directions for making soda-powders, to all who wish to economise by purchasing the materials and making the articles themselves:—

Seidlitz-Powders.—Take tartrate of soda (Ro-

chelle salts) 120 grains (troy); carbonate of soda 40 grains; mix, and put in blue paper; tartaric acid 35 grains, to be put in white paper. For use, dissolve each separately in a gill of water, pour the two liquids together, and drink while effervescing.

Soda-Powders.—Take carbonate of soda 30 grains (troy) and put in blue paper; tartaric acid 25 grains in white paper; dissolve each separately in half a glass of water, mix and drink immediately. Add sugar or syrup, to your liking.

For those who have not apothecaries' weights and scales at hand, it would be better to purchase in quantities, done up in separate papers, sufficient for 16 or more draughts, divide and put them up as near as possible, into proper doses in blue and white papers, and use them as directed above. PESTLE.

New York, July 6th, 1847.

REVIEW OF MARCH NO. OF THE AGRICULTURIST.

I find that I am so far ahead of you with my comments beyond all space you have to spare, that I must begin to study the law of condensation, and pass many valuable articles unnoticed; of this class, that under the head of *New York Farmers Club* will rank high—particularly the note on *Lime*, which seems to have been written with so much care that it attracted my attention at once. I have heretofore spoken of the valuable articles on *the Horse*. They cannot be read with too much attention.

Charcoal, Crows, and Blackbirds.—Your Eutawah correspondent asks, "What light can Reviewer throw on this subject?" This much; that when charcoal cannot be conveniently obtained to use as a disinfecting agent, spent tan-bark will answer a good purpose. So will copperas, as recommended on page 91, and so will gypsum.

"Is it true," is asked, "that blackbirds and crows do more harm than good?" It all depends upon circumstances. I once knew a very worthy man down East, that was greatly annoyed by the determination of all his neighbors to "shoot and poison the pretty creatures," the blackbirds; until at length he determined to move "out West," where there was room for everybody, blackbirds included. In the spring he wrote to me—"The woods are full of music, and as I follow my plow, I am surrounded with my favorites, the beautiful blackbirds, gathering up every worm." Again, in midsummer, he wrote—"I have the finest crop of oats I ever saw in the world, full two weeks earlier than any of my neighbors. I shall have sixty to eighty bushels to the acre." Again, a few weeks later, "I wrote you of my oats—my whole forty acres are not worth cutting. I never will say another word against killing blackbirds. They have destroyed my whole crop. Being the soonest ripe of any in the neighborhood, it seems as though all the myriads in creation had come to feed upon my oats. The whole prairie was black with them." So much for theory. In Connecticut it may be advisable not to kill blackbirds. In Illinois, the theory don't hold good.

To remove Incrustations from Boilers.—"To remove" is the word, and yet all the directions are to *prevent*. Will the sal-ammoniac *remove* old incrustations? If so, many a housewife in Western New

York, and other limestone regions, will be comforted.

Transplanting Trees.—If you are to procure them from a long distance, get them in the autumn, and bury the roots in garden mould, and just as the buds begin to swell in the spring, set them in place. *Don't set them too deep*, although you cannot dig the ground too deep. The preparation of cow manure is a good recommendation.

Cultivation of Indian Corn, by John Brown, 2d, is one of those plain common sense articles that tell that the author should write much more than he does. It will readily be perceived that this article is not calculated for a Mississippi planter; but could not be better written for the latitude of the writer.

Cotton Gin-stands.—This is one of those capital articles that come from Doctor Phillips's pen occasionally, which tell that he is a practical man. This is, to me, a new way to prevent a band from slipping, and is worth the notice of every one who uses bands. Thrashing-machine men, as well as cotton-ginners, will do well to try it. If found to succeed as well in all cases as with the doctor, the information is invaluable. The alteration in the gin is worthy of the notice of every planter, for all know that the best cotton is most seriously injured in ginning.

Apple and Pear Trees Destroyed by the Locust, is something new under the sun; but is worthy of investigation. Let every reader turn back to this exceedingly well written article, and carefully read it over again, and investigate the facts stated. This is a valuable correspondent, and she should write more frequently.

Corn for Shipping.—"What variety is best?" As Mr. Allen says, it depends entirely upon what part of our immense corn growing country the crop is grown. We grow Indian corn in the United States through twenty degrees of latitude. The seed of Mr. Brown's crop, just noticed, which he grew at Lake Winnipisiogee, in New Hampshire, would prove worthless in Florida. And it would be equally idle for Mr. Brown to undertake to grow the Florida gourd-seed variety. I should like to see him "*topping*" some that I have found growing in my Southern and Western travels. He would need a long knife to reach up to the butt of the ears. To my taste, the Southern white corn is superior to all others for bread; and if some of my Yankee brethren will only make that "*steam apparatus for drying corn and meal*," as it goes on ship board, this variety will prove the most acceptable to English palates. Since writing this article, I have seen in the Cincinnati Gazette of April 15th, an account of such an apparatus, invented in that city, which is capable of drying 5000 bushels of Indian corn a day. It appears to be made of sheet-iron, and is probably portable. Perhaps this will answer, as before suggested, to use upon the ship's deck, and dry the corn as it passes into the hold. If not, one that will can be invented.

Construction of Hot-Houses.—The ridge-roof plan, recommended in this number, will never answer in this vicinity. It may do further south. Here the snow and ice that might accumulate, in one night, in all the gutters, might ruin the whole. The plates, illustrating this article, are most beautiful specimens of wood engraving. This is one of the

very important benefits which the readers will derive from the Agriculturist being published by a house that has such a vast number of cuts as the Messrs. Harper, and which can and will be used to illustrate this paper. In that respect it can, and I hope will, become the most valuable paper in the United States. There is nothing so pleasing to the general reader as pictorial illustrations. For this, London works are pre-eminent; but we can equal them with equal patronage.

Mr. Norton's Letters, No. 3.—I have a very serious fault to find with this letter; and I venture to say that nine-tenths of the readers of it will coincide with me. And it is a fault that our friend Norton can, and I hope will, amend in future—*it is too short*. Good descriptive writers are always interesting. Mr. Norton is eminently of this class.

Economy in Food.—Use less meat, cold and hot, and more vegetables.

The Corn or Fly-Weevil.—Mr. Ruffin intimates his opinion, that this insect will not become troublesome in the Northern States. I hope not; but yet I am aware that it has been gradually gaining northward, like some other "southern abstractions," for several years past; and that now Tennessee, Kentucky, Southern Indiana, and Illinois, are exceedingly tormented by these wheat destroyers; and I have no doubt but what the weevil is as easily acclimated at the North as is Southern corn. To keep corn in the shuck clear from the weevil, it should be put in a well ventilated crib, and a little salt sprinkled upon the shucks as it is put in. Wheat in the chaff should be served in the same way. Shelled corn or wheat, if put up perfectly dry, in tight casks headed up, and kept in a dry place, will keep well. If put up in open bins, and covered over with a coat of powdered lime, half an inch thick, sifted on the grain, it will prevent the weevil from penetrating, and will not injure the berry for seed or bread, as it is easily blown out. There will then be no "weevil-eaten surface" to feed to the hogs. All plans for preserving grain from the weevil will be successful, if it is only understood and borne in mind, that if the atmosphere is excluded, this insect cannot increase. Eggs already laid may hatch, but thus endeth the family.

Letters from the South, No. 4.—It might have been stated that not only "the whole southern portion of Louisiana is exclusively an alluvial deposit," but the whole State, and a great portion of Mississippi and Arkansas are equally so. There was a time when the mountains of Tennessee joined with those of Missouri, and these great alluvions were not; and all the vast basin of the Mississippi, Missouri, and Ohio rivers, now covered with rank vegetation, was then a vast inland sea. When the gap, through which the great river now flows, was thrown down by earthquakes, then it was that all of this great alluvial deposit was made, and the lower Mississippi first began to roll its muddy waters onward into the Mexican gulf, gradually raising its banks above the level of the sea, till they might be habited by man; which, as the writer says, has been done too soon by many centuries; for the whole levee system tends to prevent the filling in of swamps lying back from the river, along its course from the mouth to the mountains of Missouri; so that all the lighter portions of the

floating earthy matter in its waters, must be carried out and deposited at its many mouths, while the heavier portions will be continually depositing at the bottom, which will compel a corresponding annual increase in the height of the levee, and will for ever render a system of drainage necessary, to take off the leakage from such a vast body of water, flowing in a pent-up channel twenty or thirty feet above the level of the land in cultivation, within a stone's throw of the deck of a steamer, the very keel of which will be above the top of the growing crops upon either shore. Truly may it be said, as in the commencement of the article under notice, "Louisiana is, in many respects, the most peculiar country on the globe." Before it can ever sustain a dense population, it has got to be put under just such a rigorous system of management as are the dykes and canals of Holland; for the Mississippi flood is a giant that can only be managed by a gigantic and despotic power. Not a year now passes without the closing up of some of the old outlets hundreds of miles above the mouth, by which the strength of the main channel current is increased. Time will show that this system is wrong—that instead of stopping up outlets, new ones should be made.

Chapter on Grasses.—The reading of this article has suggested a new idea to my mind; and that is, if party politics and public opinion ever do permit a school of a purely agricultural character to flourish in this country, that there should be a map, or rather maps, showing the belts of country in which the different products of the earth, which are cultivated for man's sustenance, do mostly flourish. For instance—commencing with the orange in Florida; together with the lemon, fig, grape, peach, pomegranate, melon, sugar-cane, &c. &c., intermingling with corn and cotton, which latter would run out near the lower part of the Ohio river, while the orange would have been left 500 miles behind; but wheat would continue to increase till we approach our northern limit, when barley and oats would take its place. The diversity of climate is so great even in one State, that of Michigan, for instance, that in the south part the finest crops of wheat in the world can be grown, while in the north part not a kernel can be matured.

"Wheat yields a greater proportion of flour than any other grain, and is also much more nutritive." Granted—but does it produce the greatest amount per acre of nutriment for man? The average yield, in the United States, of all the acres sown for the last ten years, will not exceed ten bushels the acre; and even in its highest state of cultivation, it will fall far below the highest degree of cultivation of Indian corn in the amount of human sustenance.

Pray, Mr. Editor, how many European laborers would the largest crop of an acre of Indian corn ever grown feed one year with the common rations, say of a German peasant.

"The methods of cooking corn-meal are of all grades of goodness, from the 'hoe-cake,' made of meal and water only, and baked by the negro upon his hoe," &c. Why, my dear "E. S." you say this, as though "Aunt Betty's hoe-cake" was at the very lowest grade of the scale of goodness, when, in very truth, it is the best way that corn-meal ever was, or ever can be, cooked. The hoe-cake

that I ate the last time I had the pleasure of breakfasting with you, never can be exceeded in all the "too numerous to mention modes of cooking corn-meal."

Plant Flowers.—Yes, ladies, plant flowers! If you wish me to love you—if you wish to be loved by any man whose love is worth reciprocating—love flowers; for he must be a very impassionless being who would not love a lovely female who loved flowers. I mean to make another journey, one of these days, across the great western prairie, out of pure love of flowers. I love them in their native wildness, covering the whole face of God's creation. The Indian's "happy hunting ground," is always pictured as full of flowers.

Female Clothing.—I could write a sermon upon this text. I object to one line of yours—"For the dress of children, warmth should chiefly be studied." Oh, no! not chiefly. Infants are often clothed too warm. I have seen mothers, when going out, wrap them up with as many blankets, and as much care, as you would a lump of ice on a melting day. For growing children, looseness of dress should be the chief object, and suitability of clothing at all seasons; and, of all things, don't keep so much in the shade. There is a perfect mania, in this generation, for living in dark rooms; and yet, light and sunshine are just as necessary for the healthy growth of children as for plants. The very remarkable difference between the looks of city and country children, and between American and English females, is owing to this cause. [Not altogether; the cool, moist summer climate of England is more favorable to a fine complexion than the dry, hot one of America.] Give your children not only the light of knowledge, but the light of ever-glorious sunshine.

Famine in Ireland.—This country is obeying the promptings of pure benevolence in sending food to the starving millions of "Fader land." But how much better it would be to send and bring the starving to this land of plenty! How much would it cost to bring a million of these poor souls from their desolate homes, and transport them to the Grand Prairie of Illinois, where there is plenty of unoccupied fertile soil, as rich as a garden, with good water, stone-coal for fuel, clay for building the walls of cabins, and wild grass for thatch, and where, being furnished with a spade and seed, one man would support a family as soon as the seed could grow; and the difference in the cost of provisions for a family a year, would be so much less in Illinois than in Ireland, that it would be almost enough to remove them to that land of plenty. Who will take the lead of a "great benevolent Irish Emigration Society?" You need not buy the land. If Congress will not give what is now worthless, take it. Let them become squatters. In a few years they will be able to buy the land from the product of their own labor. It is worth thinking about.

REVIEWER.

CURE FOR THE FOOT-ROT IN SHEEP.—Take honey 4 oz.; nitrate of copper 1 oz.; strong acetic acid 2 drachms; rub down the nitrate of copper thoroughly in a wedgewood or porcelain mortar, and gradually mix it with honey; then add the acetic acid so as to form a mixture of uniform consistency, and apply it to the feet of the sheep.

TO THE PLANTERS OF MISSISSIPPI.

THE Hon. Edmund Burke, Commissioner of the Patent Office, Washington, has been pleased to address to me one of his circulars, calling for accurate information on the various subjects interesting to us as planters. I am very anxious to give a full and accurate answer, and therefore beg, through this medium, to request the planters of Mississippi to forward me by letter, by the 20th of October, as full accounts as possible.

Congress has appropriated the means by which the Commissioner of Patents can issue another report, and feeling assured that the planting interest are willing to aid in the undertaking, I trust I may receive numerous letters.

The information desired may be summed up thus:—What increase compared with the crop of 1845? The cause? Quantity of seed per acre? Average quantity grown per acre? Price, home consumption, time of sowing, time of harvest, best kinds, soil? (These questions are applicable to grain of all kinds.) Quantities of hay (or blades, fodder, as called with us), hemp, flax, tobacco, cotton, rice, silk, together with the diseases and remedies; the best kinds, if any choice, in seeds? Any experiments, and what? How conducted, the result? Probable proportion of cultivated land? Best rotation? Orchard? Kinds of fruit? Any increased attention? Wool? Average per head, price per pound, weight of mutton and price? Hogs? Enough for home consumption? Weight per head, any sold? Wages of laborers? Designating price of men and women farm hands, white mechanics, black ditto? Price of transportation to market? with any other information that will tend to throw any light on our resources.

I beg to note here a portion of the report for the estimate of the crop of Mississippi for 1844, in order that attention may be particularly drawn to it. Our population was placed at 556,467; our crop of corn was placed at 2,709,000 bushels; the number of slaves, as returned to the State Department in 1845, over five and under sixty, was 173,730, with near 50,000 under five. If we allow fifteen bushels to each slave over five, it would require 2,605,950 bushels to feed them, not leaving much for the whites. The oat crop was put down at 1,081,000 bushels; potatoes 3,378,000 bushels; hay 1000 tons; cotton 195,240,000 lbs.

We have about 100,000 negroes engaged in the culture of cotton, besides some thousands of white laborers. It would be safe to calculate on 100,000 horses and mules in the State, and on sixty bushels of corn fed to them during the year, which would require 6,000,000 bushels; add to this, the corn that is used per head, and, judging by my own family, it will require eight bushels each, this multiplied into the population of 1844, would give 10,451,736. To this might again be added largely for waste, carriage and riding horses, poultry, hogs, &c. But our crops will average full twenty bushels per acre, and our five acres per hand, thus would our corn crop swell up to 10,000,000 bushels, with a considerable margin for purchasing more; and if these acres should produce only 200 lbs. of blades, and no hay nor pea-vines saved, then would our hay-crop amount to 5000 tons. Again, our potatoe crop is rather large, it being about six bushels for every

soul; as we sell scarcely any, and seldom have a supply until June, we might drop full a million, I think.

These matters are merely alluded to, that others may reflect thereon, so as to be able to render more service.

M. W. PHILIPS.

Edwards' Depot, Miss., June 17th, 1847.

A SPLENDID YUCCA GLORIOSA.—One of these magnificent plants was seen in bloom, a few years since, in the garden of Mr. James Bagust, near London, which was in its full vigor, and contained from 1500 to 2000 blossoms! But its superiority consisted in the magnitude of its lilaceous flowers, which were nearly equal in size to those of the tulip, and possessed the agreeable quality of attracting bees.

PLASTER FOR THE INTERIOR OF HOUSES.—Take air-slacked lime eight parts; sifted plaster (gypsum) four parts; powdered quick-lime one part; mix well together in small quantities with water, and use immediately. This composition, under ordinary circumstances, will not crack.

BENEFICIAL EFFECTS OF MARL ON WORN-OUT LANDS.

I HAVE for many years been occasionally engaged in making experiments, designed to bring to light the best method of restoring to profitable culture, lands that are clothed with that unerring badge of poverty, the broom-grass. The result of the following experiment in applying marl to such land is now made public for the benefit of persons possessing worn-out lands, near deposits of this valuable manure.

The impression has hitherto generally prevailed, that the application of marl to poor lands must be limited by the progress of cultivation, and that it could not exert much of its fertilizing power, if applied to such lands without cultivation. This, I think, is an error, as will be clearly shown by the result of the experiment which I will proceed to detail.

In the month of February, 1846, five hundred bushels of blue or green sand marl were scattered on a measured acre of land which was covered with a growth of broom-grass, known to be alike the badge of poverty, and the memorial of maltreatment in by-gone days.

On this land, in March following, three gallons of red clover-seed were scattered, and in the month of June, 1846, the clover was found to be in a thriving condition, bunches of it having reached the height of 28 inches in less than three months after the seed were sown. And now (June 12th, 1847) it has complete possession of the soil, and after having been much injured by a long and severe drought, that portion of it that has gone to bloom is from 15 to 20 inches high. As I did not wish my first experiment to prove abortive from drought, I used nearly double as much seed as would, under ordinary circumstances, be requisite. Two gallons to the acre would be an abundance. This land has not had the plow, hoe, or spade to operate on it for nearly twenty years. Now it seems to me that the result of this experiment shows conclusively, that lands similar to this, which are abundant in Eastern Virginia, having a supply of blue marl near

them, may be converted into rich grazing lands, without subjecting them to a previous succession of cleansing crops, and thus the farmer could make ample provision for his cattle and other animals, without grazing lands devoted to wheat, corn, &c.

The cost of restoring such land as that mentioned above to fertility, by marling and applying cloverseed, would be from five to seven dollars per acre, and this cannot be considered "paying too dear for the whistle," when it is recollected that the land, after the process, would be cheaper at thirty dollars per acre, than it would be at two dollars if left in its previous impoverished condition. In the last mentioned state, it would bring the cultivator in debt; but when improved, it would not only yield enough to meet the expense of cultivating and securing the crops, but would also pay a handsome profit in the investment if valued at thirty dollars per acre.

The land on which this experiment was made is hilly, with a southwestern aspect. I have another acre of clover on a hill with a northwestern aspect which will come to maturity in June, 1848; and as many would regard a luxuriant growth of red clover, produced on such a soil without previous cultivation, as the eighth wonder of the world, I now invite all who feel interested in the matter, to visit Potomac Church about the middle of June, 1848.

This land lies about half a mile distant from the Richmond, Fredericksburgh, and Potomac Railroad, six miles from Fredericksburgh, five miles from Aquia Creek, and within six hours' travel of Richmond, Va., by railroad; and five hours from Washington by railroad and steam-boat. In this region the blue marl abounds, and lands capable of rapid improvement by its use, can now be purchased at moderate prices. If any of our northern friends are on the eve of departing for Oregon or California, it would be well for them to give this part of Virginia an examination before they pull up stakes and bid a final adieu to their native homes.

There is another consideration which should operate as an inducement to bring emigrants to this region.

A work is now progressing on the Rappahannock River, that will, it is supposed, at no distant period, bring into profitable use the extensive water-power of the Rappahannock, which would result in a large addition to the business and population of Fredericksburgh. In that event the unoccupied land in the vicinity of Fredericksburgh, which can now be purchased at low prices, will advance in price from one hundred to three hundred per cent. The prospective value of western lands is inducing thousands to go thither, encountering the diseases and other hardships incident to unsettled regions; and as there exists a reasonable prospect that lands in this part of Virginia will ere long be greatly enhanced in value, this consideration should operate here with much greater force, because of the advantages arising from the nearness of good markets for the products of the soil, convenient access to means of education, &c. If persons desirous of examining lands in this part of Virginia, will call on me at Fredericksburgh, I will with pleasure render them all the aid in my power.

LAYTON Y. ATKINS.

Fredericksburgh, Va., June, 1847.

CHOICE OF TREES AND SHRUBS FOR CITIES AND RURAL TOWNS.—NO. 2.

TREE-CULTURE, like music, architecture, dress, &c., has its *style*, and consequently its rise and decline, according to the age and country in which it may prevail. For instance, the box-tree was much employed in verdant sculpture and close-clipped hedges, in the gardens of Roman villas in the Augustan age. Pliny describes his "Tusculan villa," as having a lawn adorned with figures of animals cut out in box-trees, answering alternately to one another. This lawn was again surrounded by a walk enclosed with evergreen shrubs, sheared into a variety of forms. Beyond this was a place for exercise, of a circular form, ornamented in the middle with box-trees, sheared as above into numerous devices; and the whole was surrounded by a sloping bank, covered with box, and rising in steps to the top. In another part of the grounds of the same villa, the box is mentioned as having been cut into a variety of shapes and letters; some expressing the name of the master, and others that of the artificer. The same practice is still followed in several Roman gardens. In that of the Vatican, for instance, a few years since, the name of the Pope, the date of his election, &c., might be read from the windows of the palace, in letters of box.

About the middle of the seventeenth century, the taste for verdant sculpture was at its height in England; and about a hundred years since it afforded a subject of railery for the wits of the day, and soon afterwards began to decline. The following lines by West, convey a good idea of a topiary garden:

"There likewise mote be seen on every side
The shapely box, of all its branching pride
Ungently shorn, and with preposterous skill,
To various beasts, and birds of sundry quill,
Transform'd, and human shapes of monstrous size.

* * * * *
Also other wonders of the sportive shears,
Fair Nature mis-adorning, there were found;
Globes, spiral columns, pyramids, and piers
With spouting urns and budding statues crown'd;
And horizontal dials on the ground,
In living box, by cunning artists traced;
And galleys trim, on no long voyages bound,
But by their roots there ever anchor'd fast."

The subject has been more or less revived within the last forty years, and fine specimens of architectural gardening may be seen at Whim, near Edinburgh, and in some of the public grounds in the vicinity of Amsterdam, and of Paris, where there are numerous colonnades, arcades, walls, pyramids, and other architectural masses, which produce an imposing effect.*

Soon after the introduction of the Lombardy poplar, by Hamilton, in 1784, it uninterruptedly spread throughout the country, and by the end of the second decade of the present century (1819), it had multiplied to such an extent that, stiff, formal rows of it were to be seen growing in front of dwellings and along the borders of fields and road-sides in almost every civilized town in the Union. But owing to the monotony and whimsical effect it usually produced in the scenery, and to its long creeping roots, which insinuated themselves below the surface of the ground, often to the distance of twice the height of its summit, forcing asunder pavements

* Vide *Trees of America*, pp. 46 and 433; also *Loudon's Arboretum Britannicum*, pp. 370, 4334 et 2306.

and cellar-walls, and robbing the neighboring vegetation of its legitimate food, this tree, for general purposes of ornament, was very justly condemned. Since the last named period, however, from the universal prejudice against its culture, the opposite

so disposed as to break the mass into several groups, and give a new aspect to the whole scene. The pointed heads of the poplars also form a pleasing contrast with the round heads of other trees, and break the too uniform line depicted on the sky,

while the branches, which rise stiffly upwards, contrast with, and render more graceful, the horizontal, or pendent masses of round-headed trees.

It is an established rule in the composition of landscapes, that all horizontal lines should be balanced and supported by perpendicular ones; and it is allowed by all writers on the material sublime, that gradually-tapering objects, of great height, create emotions of sublimity. Hence the Lombardy poplar, the cypress, and other fastigate-branched trees may be advantageously planted wherever there is a continuance of

horizontal lines; but they should be so arranged as to form a part of those lines, and appear to grow out of them, rather than to break or oppose them in too abrupt a manner. In the case of a bridge, displaying a long and conspicuous horizontal line, the effect is greatly increased by planting poplars on each side of it, as denoted in fig. 59. Not only the lines of the bridge are balanced and supported by the upright poplars, but lengthened and pleasing reflections from the water are produced; which, breaking the horizontal gleams

of light, not only afford variety and richness, but, by increasing the length of the perpendicular lines, formed by the trees confer a degree of sublimity on the picture attainable by no other means.* Similar effects may be produced by planting this poplar near the margins of lakes or streams, or beyond the horizontal lines in fortifications, an admirable illustration of which is displayed on Governor's Island, in the harbor of New York.

Another beauty the Lombardy poplar possesses, which is almost peculiar to itself, is, the waving line it forms when agitated by the

wind. Most other trees, in this respect, are only partially moved at the same time, one side being at rest, while the other is in motion. But this tree, as Gilpin expresses it, "waves in one single sweep from the top to the bottom, like an ostrich-feather on a lady's head."

Notwithstanding the suitability of the Lom-

* Vide Gardener's Magazine, i., p. 19



FIG. 57.

extreme has prevailed, and it is feared, that, ten years hence, scarcely an individual will be left in the country. This is to be regretted, as this poplar has a character peculiar to itself, and in certain situations it will produce an effect in the landscape that cannot be imitated by any other tree, except the cypress, or perhaps, in some cases, by the spruce-fir. For instance when employed for contrasting with round-headed trees, the Lombardy poplar has a most pleasing effect. Let us take a belt, or thicket of trees, as denoted by fig. 57, and when contem-

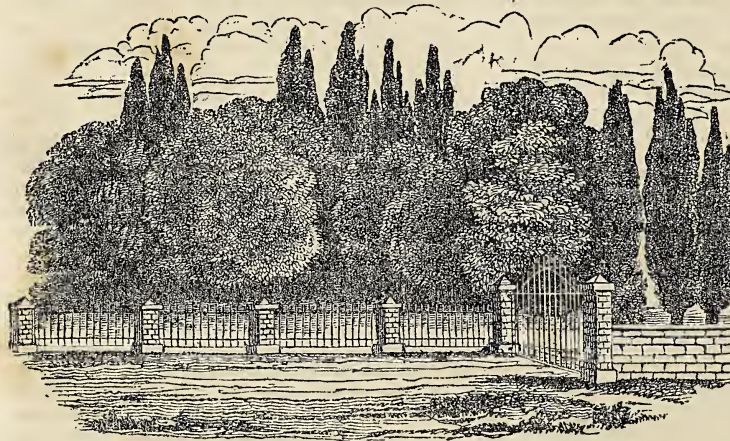


FIG. 58.

plated by themselves, they are quite fatiguing to the eye from their dull and monotonous appearance, although they might be displayed with advantage in the foreground of a lofty tower, or the tall spire of a church, and perhaps many other objects; but add the poplars, as shown in fig. 58, and immediately an interest is created, and a character given to the group, it did not before possess. For the poplars, which are taller than the other trees, are

bardy poplar for planting in cities and towns, on account of its narrow form and vertical direction, or for planting behind a stable or other agricultural building, where the principal mass extends in length, rather than in height, the reasons already named concerning its creeping roots, should for ever preclude its adoption near human habitations, or in cultivated fields; and the homely assertion of the late William Cobbett, in regard to this tree, conveys more truth than fiction, when he said, "That well-known, great, strong, ugly thing, called the Lombardy poplar, is very apt to furnish its neighbors with a surplus population of caterpillars, and other abominable insects."

The Lombardy poplar, when old, frequently decays at the extremity of its branches, which gives the tree an unsightly appearance. This may be remedied, however, by heading down the trunk, early in the spring, to the lowermost limbs, and in

at all harmonizing with it, by their form, however beautiful it may be in itself, it always more or less injures the landscape.* Gilpin, in his "Forest Scenery," remarks that the "weeping willow is a very picturesque tree, and a perfect contrast to the Lombardy poplar." The light, airy spray of the latter, he adds, "rises perpendicularly; that of the weeping willow is pendent. The shape of its leaf is conformable to the pensile character of the tree; and its spray, which is lighter than that of the poplar, is more easily put in motion by a breath of air. The weeping willow, however, is not adapted to sublime objects. We wish it not to screen the broken buttresses and Gothic windows of an abbey, or to overshadow the battlements of a ruined castle. These offices it resigns to the oak, where dignity can support them. The weeping willow seeks an humbler scene; some romantic foot-path, which it half conceals, or some glassy pond, over which it hangs its streaming foliage,—

—and dips
Its pendent boughs, stooping, as if
to drink? "

This tree is not calculated for what is termed "rural or woodland scenery;" its softness of tint and peculiarly graceful habit, seem to render it a proper object for embellished landscapes. It is an excellent tree to plant by the side of fish-ponds, as it is generally found to lean over the water, and by this means affords shade to the fishes, which are frequently killed, in hot summers, by the rays of the sun, where there is no

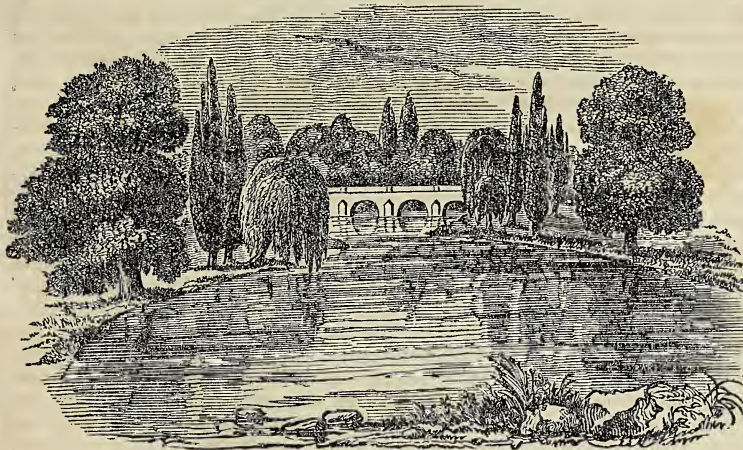


FIG. 59.

the course of the season, new shoots will spring forth, and in two or three years it will assume the character of a young tree.

The next foreign tree, after the poplar, which attracted attention, and became a universal favorite in this country, was the *Weeping Willow*, although it had been much earlier introduced. From its long, slender, and pensile branches; its very early, light, elegant and persistent foliage; and the facility with which it can be propagated, without knowing its incapacity to take permanent root in a moderately dry soil, it is not surprising that this tree should generally have been adopted, and in many cases misapplied. Hence the inconsistency of planting it in Brooklyn and New York, for ornamenting the streets and public grounds, the error of which is yearly manifest by the number of trees uprooted by the winds.

In ornamenting plantations, the weeping willow has the most harmonious effect where introduced among trees of shapes as unusual as its own; partly those of a similar character, as the silver-leaved maple, or the weeping birch, and partly those of contrasted forms, as the Lombardy poplar. The effect of all these trees is always good, when accompanied by water, as shown in fig. 59; but when large, in a scene in which there are no other trees

shade on the water; and the smaller the pool, the greater is the necessity to give it shade.

The *Mountain Ash* has also long been a favorite in the cities and larger towns in the Middle and Northern States, and as an ornamental tree is well adapted for small gardens, or any place where the harboring of singing birds is desired. "In the Scottish Highlands," observes Gilpin, "it becomes a considerable tree. There, on some rocky mountains, covered with dark pines and waving birch, which cast a solemn gloom over the lake below, a few mountain ashes, joining in a clump, and mixing with them, have a fine effect. In summer, the light-green tint of their foliage, and, in autumn, the glowing berries which hang clustering upon them, contrast beautifully with the deeper green of the pines; and, if they are happily blended, and not in too large a proportion, they add some of the most picturesque furniture with which the sides of those rugged mountains are invested." One great advantage of the mountain ash, in all situations, is, that it never requires pruning, and never grows out of shape. But unfortunately for this tree, as also is the case with its American congener (*Pyrus aucuparia americana*), its trunks and roots are perfo-

* Loudon, Arboretum Britannicum, pp. 1511 et 1512.

rated by several species of borers, in consequence of which it seldom arrives at an age of fifty or sixty years.

The *Evergreen Box* has been planted in this country from the earlier periods of settlement, and, in modern gardening, forms a most valuable shrub, or low tree. It is more particularly eligible as an undergrowth in ornamental plantations; where, partially shaded by other trees, its leaves assume a deeper green, and shine more conspicuously. Next to the holly, it has the most beautiful appearance in winter, more especially when the ground is covered with snow. The variegated sorts are admissible as objects of curiosity; but as they are apt to lose their variegation when planted in the shade, and as in the full light their green is frequently of a sickly yellowish hue, they certainly cannot be recommended as ornamental.

The *European*, or *Field Elm*, has been sparingly planted in the Northern and Middle States, and forms a desirable tree in parks and lawns; but for the purposes of shading avenues and public highways, it is far inferior to our native elm, and numerous species of other indigenous trees. What is here said of the field-elm, may be applied to the European ash, and the English oak.

The *Weeping Birch*, or *Lady-Birch*, as it is sometimes called (*Betula alba pendula*), is occasionally met with in collections in this country, and forms an elegant pensile tree, resembling the weeping willow, and is put in motion by the slightest breeze. When agitated, it is well adapted to characterize a storm; or in the landscape, it is calculated to occupy any station the weeping willow is expected to fill.

The *European Holly* has been sparingly planted in several of the older States of the Union, but from its tender nature, it has rarely succeeded north of the Potomac. In viewing it as a hedge-plant, or as an ornamental tree, or shrub, it is not surpassed by any other evergreen, and therefore should be cultivated in every latitude in which it will thrive. In the more Northern and Eastern States, however, the American holly (*Ilex opaca*) may fill its place, if proper care be observed in transplanting it from the nursery, or the woods.

A large mass of earth should remain attached to the roots when removed, and the tree should be set in the ground with the same side towards the south as it presented in that direction in its original site.

The *Zelkova*, or *Tselkwa*, in a few instances, is to be met with in this country, and as a tall, fastigate-growing tree, in some situations it may occupy the place of the Lombardy poplar, should a prejudice exist against the last-named tree. The zelkova is distinguished by its shining-green, broadly-crenulated leaves, its smooth, greenish trunk, and somewhat resembles the beech, except that its branches are more numerous, and grow more erect. Its wood is said to be stronger and more durable than that of the oak.

The *Ginkgo-tree* is frequently to be met with in American nurseries and collections, and as a tall, somewhat spiry-topped tree, forms an appropriate subject for planting in clumps on a lawn, or in belts of wood surrounding fields.

The other foreign trees, which have more recently attracted general notice in this country, are

the horse-chestnut, the abele, the European linden, the paper-mulberry, and the ailantus. All of these species appear to have been unnecessarily and prodigally applied, unless we except the two latter, for ornamenting the streets of densely-crowded cities and populous towns; and it is hoped that an improved taste, as well as the good sense of our citizens, will cause them to be more sparingly planted, and a judicious selection of our native trees, cultivated in their stead. Each of the first three has an appropriate place in the landscape; but as subjects for shading streets or highways, they are particularly objectionable on account of harboring noxious and disgusting insects, and in affording them food.

The *Ailantus*, from the rapidity of its growth, regular form, and large, pendulous, palm-like leaves, so strong and bitter as to repel all insect attacks, may justly be entitled the "Metropolitan Tree." It is not free from objection, however (and where is there a tree that is?), for, during the period of its flowering, the air is filled with the offensive odor of its pollen, at a distance of a quarter of a mile; and when raised from cuttings, the roots are liable to throw up troublesome suckers; in winter the budless branches present a clumsy appearance; and the tree, like most others of rapid growth, is comparatively short-lived. When planted in cities for shading streets, it may be removed every twelve or fifteen years, to give place for others of younger growth; but if employed for ornamenting broad avenues, or extensive parks, it may remain undisturbed for forty or fifty years; and when associated with the sugar-maple, the liriiodendron, the horse-chestnut, or other trees of opposite characters, it produces an admirable effect. The ailantus, however, bids fair to be supplanted, in a degree, by its eastern rival (*Paulownia imperialis*), which has recently appeared among us from China or Japan.

The *Paper-Mulberry*, from its easy propagation, rapidity of growth, and its singularly beautiful, light, open foliage, which is attacked by no insect, in most respects, is a very desirable object for shading avenues and streets; but like the willow, when planted in a dry soil, it becomes top-heavy, and is often blown down or shattered by the winds; besides, it is one of the last trees to put on its leaves, and is too tender to withstand the climate of the northern parts of this State. [Transactions of the N. Y. State Agricultural Society.]

EXPERIMENTS AMONG FARMERS.

Of all the means within the reach of the husbandman for making new discoveries and eliciting new truths, none seem so generally available or so certain of success, as well-conducted experiments. These will furnish the key to unlock the chest of gold, the source from which have sprung and will spring the most important improvements in science and art, and it is to them we must look for those mighty advantages and blessings which we anticipate from future discoveries.

Experiments, I know, have often been made the subject of ridicule; but the farmer should never be deterred from trying them, by the jeers and ill-boding predictions of those who interest themselves more about the affairs of others than their own. Had Fulton been influenced by the ill-augured omens

of the multitude, he would never have tried the experiment of propelling a boat by steam. Neither ought the enterprising farmer to be discouraged by failures; for "true glory consists not in never falling, but in rising every time we fall." Let him pursue a straight-forward, persevering course of experimenting, and in the end he will find that the gain will far exceed the loss. Yet, proper care and vigilance should be observed while walking in untrod paths. No matter how plausible a theory may appear, it should not be relied on with confidence, until it has been proved by experiment to be sound and trust-worthy. Hearsay evidence should always be regarded with distrust until our own experience has tested its validity, and caution must sometimes be observed in putting it to this test. It will not do to follow the example of the farmer, who, having heard that a hog could be made fat by feeding it one ear of corn and a pailful of water per day, starved a dozen to death in trying the experiment.

The better way is to try experiments on a small scale, as the truth can be as well ascertained in this way, as by running the hazard of great loss, with the uncertain prospect of great gain. The utmost care should be observed in whatever innovation may be tried, and the appearance of success should not always be regarded as a certain evidence thereof. We ought also to be cautious about recommending to others, particularly through a public journal, a system which has been found good under certain circumstances, but which might not prove so under all. Such injudicious advice, given undoubtedly with good motives, has so often resulted in failure and disappointment, as to keep alive the unreasonable prejudice against *book-farming*. If, for example, one man finds by experiment that lime, applied to his corn, has increased the product one-half, he is not warranted in saying it will *always* have so good an effect. In this case, the soil must be taken into consideration. Had this individual gone further and furnished a correct analysis of his soil, he might then very properly have given the result of his experiment as evidence of the benefit that might be expected from the use of lime on soil similar to his own. The way to make experiments result to our own good and to that of others, is to conduct them on a scale adapted to our resources, and to bring to their aid the important auxiliaries of an enlightened judgment and sound understanding.

As suitable subjects for experiment and investigation, I would suggest, 1st, The trials of various kinds of manures, organic and inorganic; that the soil on which they are applied should be analysed, its situation and exposure taken into consideration, and the various advantages of the different manures carefully noted down. 2d, That every farmer should keep a correct account of all the expenses attending the cultivation of each crop, and every particular of his management. He will thus ascertain what kinds of produce are best adapted to his soil, which most profitable, and what mode of treatment most efficacious. 3d, Experiments in feeding and fattening different kinds of stock in order to ascertain the cheapest and best system. Others might be mentioned, but cases will occur almost daily, where the farmer will be at a loss which of two or three methods to adopt, and in such instances I would

say, try them both or all, when practicable; watch the result of each, ascertain which is best, and then you will have a guide to direct your after management, in which you can place more confidence than in any *hearsay* testimony.

Much benefit would undoubtedly be derived from a systematic course of experiments. That a gradual progress has long been, and still is going forward in American agriculture, is an undeniable fact; and it is equally true that there still remains much room for improvement. No farmer should feel satisfied while the system remains imperfect, and each one ought to consider it his interest as well as his duty, to contribute to the advancement and dignity of his calling. Every individual who cultivates an acre or more of ground, has it in his power to do something towards the attainment of perfection in agriculture. "Where there is a will there is a way," is a trite and true saying, and should be considered by those who make no effort to improve, and who attribute their ill-success to "bad luck" instead of bad management. To those who are really anxious to acquire useful knowledge, the means of obtaining it are seldom wanting, and that knowledge which is gained by our own experience is much more valuable and lasting than that which comes second hand and has cost us little exertion.

J. MCKINSTRY

Greenport, N. Y. June, 1847.

THE STRAWBERRY QUESTION—CHAMPAGNE WINE.

OUR Strawberry Committee are busy examining the character of all the varieties cultivated here, their bearing, quality, &c. They are all practical men, and possessed of botanical knowledge. They will again fully test the sexual question, and neither Linnæus nor Lindley will influence them in giving facts to the public. Nor will the declarations of your Eastern horticulturists, who allege that "they have raised new seedlings, perfect in both male and female organs, and bearing a full crop of large fruit;" and under this allegation, have been selling them at three dollars per dozen or more, for the last fourteen years.

Mr. Downing, in his June number, again declares that he has the Hovey seedling, perfect in both organs; yet I have not been able to induce him to send me a plant, notwithstanding I offer to pay \$500 for such a specimen. He has sent some of them, I understand, to the Boston Massachusetts Horticultural Society, who will on the first view discover that the plants sent, are a different variety. I will engage to send him children from our strawberry-gardens of twelve years of age, that shall tell his plants from the Hovey, from the stem and leaf, without seeing the flower or fruit. Friend D. appears to lose his patience with his correspondent, because he argues, that if the Hovey changed its pistillate character by running, it would be singular that it had not, after years of cultivation, undergone any change with him. I presume fifty acres of them may be found in our vicinity; but not one that has changed its character. We have a staminate, a partial bearer, that, with persons who are not accurate observers, would pass for the Hovey. I concur with our friend's correspondent, that it is next to an impossibility to guard a variety from mixture.

I plant varieties in separate beds, and keep down the runners; yet not a season passes, without my finding a mixture in some of the beds. I often find a pistillate bed covered by a greater portion of staminate. The reason is obvious. A seedling comes up in the bed, of great vigor; and bearing little or no fruit, it forms twenty new plants, where a pistillate overloaded with fruit, forms but one, and soon becomes the sole occupant. "Dr. Lindley, the highest authority in England, accounts for "blind plants," on Mr. Downing's theory of a change in the sexual characters, by running; but the day is at hand, and now is, when from one end of the Union to the other, it will be declared that the children in our strawberry-gardens surpass the learned botanists in Europe, as much in knowledge of the sexual character of the strawberry-plant, as they surpass our half-savage urchins in the knowledge of Greek and Hebrew.

The wishes of Mr. Downing's correspondent will be met in the Report of our Strawberry Committee. They will give a full account of the sexual character, quality, &c., of all the varieties cultivated in this vicinity. The result will be, that among the 101 new seedlings, not three of them will equal the old discarded Hudson. Mr. Ernst has this season brought forward a new seedling strawberry, that will command attention. It was raised by an Englishman by the name of Taylor, in our town, a few years since, who, on removing, sold his plants to Mr. Ernst, and assured him, that it was one of friend Downing's *perfect specimens*, as it was an abundant bearer, and produced from a single seed, the same being the only plant he had ever had in his garden. I went with Mr. Ernst to see this prodigy then in full bloom. He had about 1000 plants, and among them I discovered about twenty staminate plants, entirely defective in pistils. A strawberry of equal beauty I have never seen. The fruit is of unusual length, and of a bright red color. The plant is hardy and a profuse bearer. The fruit is of an average size; but not so large as the Hovey, though it continues longer in bearing. Its flavor would suit me better, if more acid; but in the region of Boston, where Jaynes' seedling and Mottier's Hudson were pronounced "sour and worthless," I think it will be esteemed. Its great beauty will make it a favorite, and cause its extensive cultivation.

N. LONGWORTH.

Cincinnati, June 8th, 1847.

P. S.—The cultivation of the grape for wine, is extending rapidly in this region, and some of our steepest and worthless hills are converted into beautiful vineyards. Present appearances warrant the expectation of an abundant crop of grapes.

I observed, in one of your French papers, a severe criticism on a sample of American champagne wine, made in this city, and I fear the criticism was just. It was manufactured in the spring, and sold through the summer and fall. After standing a month, it forms a sediment, becomes turbid, and the next season loses its sparkling quality. Champagne requires decanting from the bottle three or four times, and is never fit for sale till the second year. I have had several thousand bottles made at my cellars this spring, and will next year send a sample to your French Editor, as

I shall give up the manufacture, if we cannot equal the best imported. But the wine made this season will not be a fair sample, as we should have begun at the vineyard last fall, and not in town this spring; yet we ceased the manufacture, as too late, at the period when some others were commencing. I profess no skill in the matter, but my wine-cooper does, and another season will test who is in the right. N. L.

FENCES A DIRECT TAX TO THE FARMER.

In looking over the early volumes of the Agriculturist, I find that in the commencement of your editorial labors, you called the attention of your readers to the very important subject of the *non-fencing* system. In running over the several articles on that subject, I was pleased to see that your own opinion coincided with one that I have long cherished in that matter of rural economy, and which is rooting itself more firmly in my mind with every reflection given to the subject, as well as every point of observation which I am able to gain in giving the matter more perfect investigation. But why was it that the matter dropped where it did? Had you no encouragement to pursue the pleadings of your pen with our brother farmers further upon this question of enormous expenditure, and often vexatious care to them? There must, indeed, be a horrid lethargy pervading the mind of the body agricultural, while they go calmly, and indifferently, and *drudgingly* on, and *voluntarily* submit to an evil for whose existence there is no pretext or excuse. Farmers, look at this matter, and see if you cannot effect a reform.

In the first place, I would call your attention to fences on the highway. I will point you to a small agricultural town only four miles square, in Massachusetts, where by the ordaining of the powers that be and that have been, there are fifty miles of roads, which, if they were all fenced (they are not, and probably never will *all be fenced*, for in some sections of that town unfenced lands are as secure as those shut up), there must be *one hundred miles of fence* built and supported from year to year to preserve the crops growing adjacent. A great tax, truly, to be levied upon a little town whose population in men, women, and children, does not much, if any, exceed one thousand souls. Any school-boy ought to be able to calculate the cost of building and keeping in repair this fence, as the same article costs in his own neighborhood, say fifty cents a rod for building, which, taking the country through, would probably be altogether *too low*. Therefore, there is a direct tax laid upon the landholders of this small town of \$16,000 or more than \$1.50 a head to each inhabitant, old and young, male and female, cripple and infirm. Now, what would not that community say and do, if government should impose on them such an assessment to carry out any purpose no matter how useful? They would, unless as fast asleep as they are upon this subject, cry out *oppression*, and raise the voice and the arm of rebellion against such a misguided policy.

But this is not the end. The \$16,000 is laid up in stone, or rails, or set in posts and nailed on in boards by the way-side, and if this were the conclusion of the matter, you might call the above sum

and the annual interest upon it (which is another pretty tax), a sinking, or sunken fund, and let it go. There is, however, a perpetual entailment for repairs, which will be suing its claims for more or less every year, in order to give a finish to the torment that such a state of things brings with it.

Then again, especially at the North, where storms are the almost constant attendant of long winters, they convert the highways, which should always be free and clear, for the use of the traveller, into regular reservoirs where every whirling eddy of the wind deposits the driving snows. How often have we in New England seen our highways filled more than level from fence to fence by the contributions of the recent storm! And how often has the disheartened traveller been obliged to urge his exhausted beast beyond its strength through these accumulated drifts, or else take a circuit through the adjoining field, to seek a shelter, perhaps far short of the point that would have been gained, had not nature, aided by a foolish and unnecessary device of man's art, thrown obstacles in his way to greatly hinder his progress. Then, too, how many days of precious time are spent in many neighborhoods in breaking out the roads, which the storm of yesterday rendered impassable, and which the winds of to-morrow as they whistle in mockery of human toil, may fill again, so as to render every vestige of former labor illegible and unavailing. Here, then, we have another tax upon the farmer as well as vexatious obstacles of frequent recurrence thrown in the way of the traveller, by these expensive, unnecessary, and very often ill-looking appendages of highways—the fences. Oh! when will the agricultural public be sufficiently awake to their interest, comfort, and those of the travelling public, to remove these appendages from their premises and rid themselves of a grievous burden.

W. BACON.

Richmond, Mass., June 20th, 1847.

HOW TO PRESERVE TOMATOES.—Take clean, ripe tomatoes, sufficient to cover the bottom of a large kettle, and place over a slow fire until their skins break, which must then be peeled off; cut out the hard core, and slowly boil the remainder until it becomes quite thick and of a dark-brown color, stirring it well to prevent burning. Spread it upon plates about an inch in thickness, and dry in the sun for seven or eight days, afterwards placing it in a moderately warm oven until thoroughly dried. The substance thus prepared will keep for years, and is so highly flavored, that a piece two inches square, stewed in half a tea-cupful of water, will be sufficient to mix with the gravy of five pounds of beef-steak, or a ragout.

PHILOSOPHY OF CHURNING.—The cream, of which butter is made, consists of minute globules, about $\frac{1}{100000}$ th part of an inch in diameter, each surrounded by a very thin transparent pellicle or film, that prevents them from adhering to one another. During agitation by churning, these little pellicles break, and the fatty portions of the globules unite into a mass, forming butter, whilst the buttermilk is left behind, which consists principally of caseum (the basis of cheese), milk-sugar, and a watery fluid, called *serum*.

MANAGEMENT OF HONEY-BEES.—No. 11.

THE length of time that bees prosper and do well in the same hive, is a matter of considerable importance. As a general rule, they do not flourish in their greatest perfection after the third or fourth year. This is attributed to the yearly contraction of the cells, in consequence of the young bees leaving behind them the thin silken encasement that shrouds them in infancy, which adhering to the cell, and diminishing its size by degrees, thus prevents the full development of the bee, in its full natural growth and vigor. This is the only reason hitherto assigned by apiarians; yet I am fully persuaded, that it is not the only cause of the want of prosperity, if it may be so considered. Bees in the busy employment of successful gathering, do not stop at the period when a sufficiency is accumulated, but continue to labor so long as a cell remains unfilled. In this manner a larger proportion of the cells which should be retained for the young brood than ought to be used, are filled with bee-bread, or pollen, and this often remains hoarded up a season or more in advance of the time of its requirement, thus diminishing the room for breeding. Such cells as may be filled with honey, are generally empty in time for the use of the young brood, and, consequently, it matters not if they are filled in this way; yet breeding is often diminished from this cause, when the bees, in the spring, have more honey stored up than they require. Now, I consider that one cause of a lack of success, after a few years, is the aforesaid season of the surplus storage of pollen, which is the cause of a lack of prolific increase; and where this is lacking, all other evils follow as a natural consequence thereof.

Another good reason why the bees retrograde after a few years, is, what must be obvious to every philosophic mind—that the constant use of the same domicile, with the occasional lodgment of the bee-moth, which no hive *wholly* escapes (there is no hive, however powerful the bees may be, that does not show an occasional worm in the spring, if closely inspected), and the accumulation of matter, causing exuviae from the combs, that our olfactory nerves at once acknowledge, must be deleterious in its consequences upon the general prosperity, and especially the fecundity of the bees.

In regard to the diminution of the size of each successive generation of bees, which must be the result, if the encasement of the embryo bee is always left behind, and never removed, as the apiarian savans of all ages past affirm, I have a word to say. I have a friend who has a stock of bees, the lineal descendants of a swarm, hived in the same box *twenty-nine* years ago. He informs me that these bees have done well; that is, what people generally consider doing well, on the old box plan, with no attention paid to the bees. I found no perceptible difference in the size of the bees, and I have a stock of my own, *ten* years old, in which no difference can be seen. But we do know that from the second to the fourth year, bees see their most prosperous days, and whatever the cause may be, we will let it pass, and endeavor to surmount the difficulty, if we can. On the old plan of destroying the bees with brimstone to get the honey, this matter is soon settled—the old stocks may be destroyed, and the young ones

saved; but we do not now follow that barbarous custom. We get our surplus honey, and retain our bees for further labors. Various are the modes adopted to remove the bees on the third or fourth years of their existence to new habitations, and, indeed, it is a subject that merits our most serious attention. The mode of artificial swarming, treated upon in July No. of the *Agriculturist*, by *division*, does partially remedy the evil, yet we must have it entirely removed. Mr. L. F. Allen, of Black Rock, N. Y., has solicited my opinion upon this point, in a communication in May No. of this paper, p. 147, for the details of whose remarks, I would refer the interested reader, and, in my next number, I will give such information and experience upon this branch of bee-management, as I have become possessed of. Mr. "Reviewer" shall be made to understand me in regard to bees *freezing and starving* to death, in due time. T. B. MINER.

Ravenswood, L. I., August, 1847.

A QUICK MODE OF COOKING TOMATOES.—Boil the tomatoes a quarter of an hour, with milk sufficient to cover them; add, while boiling, a little batter made of water and wheat flour, and season the dish according to your taste. The advantages of this mode over those usually practised are, that the tomatoes are rich, though less acid, and are much sooner cooked.

HEREFORD CATTLE.

I NOTICED your review of Mr. Colman's No. 8, on live stock. I must say I was very much disappointed in his description of this most important subject. I should be pleased to learn more definitely, *how he gained the information* he has communicated to us.

Speaking of the Short-Horns, he says: "The calves often run with the cows six months, and are frequently fed with artificial food, from the time they can be made to take it, until they are sent to the butcher." Such an assertion would give the Hereford men sufficient ground to say, that in this way the Short-Horns established their credit for early maturity, and that they must have been a very inferior race indeed, had they not been superior under such treatment. I have never seen a case of this kind, and am willing to give the Short-Horns credit for early maturity without this expensive forcing. I do admit that a Short-Horn, previous to two years old, shows better than a Hereford, but not further. A Hereford steer makes more improvement the third year than the Short-Horn, and will come to market at three years old quite as ripe, have won more premiums at that age at the Smithfield show, and sold for higher prices to the butcher, than any other breed. I am now investigating the premiums awarded since the commencement of the Smithfield show, and will give you correct particulars as soon as I have gained *proof-positive*; my impression now is, that they exceed two to one of any other breed in classes for steers and oxen.

Mr. C. says, "an intelligent herdsman who had been accustomed to the feeding and fattening of animals, and with respect to whose judgment I know of no private interest to affect it, gave it to me as his decided experience that the Short-Horns require a third more food than the Herefords."

This has frequently been stated, but proves nothing. Trials have been made to prove it, and the Herefords have, in every instance, proved most profitable. I am fully satisfied in my own mind, that Herefords do consume less than Short-Horns, but I cannot say whether the trials have been fair on both sides. My experience has been proof to me. The Herefords have lighter paunches than Short-Horns, and breeders of the former have paid more attention to this than the latter; this is the principal objection I have to them.

The Short-Horn men pretend to say, that their best calves are too valuable to make steers of; and this has been invariably their excuse when they have been beaten. Their opponents may say the same with equal truth. This should be *no excuse*. The question is, Which are the best? The answer, Go to work and prove it. I make a proposition that six of the best breeders of Short-Horns prepare a steer each to be shown at Smithfield, in 1852, force them their own way until they are three years old, then place the twelve steers in the keeping of an upright, honest, and competent person, or let him take them from the cow and treat them all the same till shown. Weigh the feed of each of equal quality, and that would decide this mooted question satisfactorily. The facts would be known to the world without excuses. If the Short-Horn men feel confident of superiority, they will not scruple to sacrifice a few bulls from their best cows, to maintain it, and the Hereford men will be able to show what they can do to prove their ascendancy. Neither will want a spur to speed them in obtaining the glory they are fighting for. This trial will be worth all the "*printed puffs*" and *windy words of those interested* and engaged in the enterprise, and the matter will be permanently settled.—So with the milking qualities of these two rival breeds. Let each of these breeders place a cow in the hands of the same person, weigh feed, milk, and butter, and report the management of the dairy, while under his care. This is what we want without *guesses or excuses*; then that breed most worthy of praise, will rest on a sound basis.

I should like a trial of this sort in this country, and will produce some of the steers and cows for trial, whenever called upon. I am ready to stand the test with any Short-Horn breeder in this country with six of each, and am willing to follow the example of "*Old Rough and Ready*," meet a combination of three to one. I do not do this with any idea of boasting. I consider that the Short-Horns have been properly represented in this country in but very few instances. If the Herefords are not, the blame rests upon me, and I am willing to rise or fall with them. I know their merits, and shall always be ready to test it. I suppose Mr. Colman has been amongst some *long legged narrow hipped Herefords*, "*lacking substance*," as he describes in comparing the Short-Horns with them. This information leads me to believe he *has not seen the best* of either. He ought not to have disgraced his bin with such animals. Give me a breed of cattle that will continue uniform in their milking, and all other characteristics of their breed, and if they will come up to sixteen quarts per day, I will be quite contented. Mr. C. should have examined the London butchers, before

he said that "the Herefords lay on their fat in large lumps and patches, (and which he says is an objectional circumstance,)" and he would have found that such doctrine and theirs would not agree.

They invariably say, that Herefords lay on their flesh more evenly and a better mixture of fat and lean than any other breed, and such is the fact repeatedly proved by the butchers.

WM. H. SOTHAM.

Albany, April, 1847.

The above would have appeared three months ago, had it not been mislaid.

LAW OF TRESPASS.

I HAVE in my possession a row of young fruit-trees, which overhang the premises of a neighbor; but owing to some doubt in regard to my right to the fruit that may fall on his land, I have thus far neglected to gather it. On the contrary, my neighbor is equally doubtful as to his claims to the fruit which hangs over his ground, and consequently it has been suffered to run to waste.

Presuming that there are others who are quite as ignorant as ourselves concerning this question, pray, Mr. Editor, can you inform us whether there are any laws or established customs in regard to this subject, and whether it would be considered as an act of trespass for me to enter my neighbor's premises to collect the fallen fruit?—and to which the fruit legally belongs? J. F. S.

Saratoga Co., July, 1847.

The truth is, the laws of trespass are involved in so much perplexity, that they cannot well be understood, except by legal heads. We therefore would not offer an opinion of our own on this knotty question, as we have known cases to be decided in different parts of the country at variance with each other. Neither do we know of any established custom in regard to the disposition of fruit grown in this way. In a majority of cases, we believe that the law has not considered it an act of trespass, if a man enters the premises of his neighbor to pick up the fruit which has dropped from an overhanging bough of a tree of his own; but this must be done at a seasonable time, and in a manner not to do injury to the premises.

There is an old law maxim—*Cujus est solum, ejus est usque ad cælum*, that is, "He to whom the soil belongs, possesses a right in everything that is over it, even up to the sky," which, if carried into practice, would prevent the boughs of one man from hanging over the land of his neighbor.

We believe it is law, also, "that if the boughs of my neighbor's tree are allowed to grow so as to overhang my land, which they have not been accustomed to do, I may, on his refusal to move such parts of them as are in that position, effect the removal myself."

If we were to advise our correspondent on this point, we would recommend him to consult the feelings of his neighbor, and if he considers his rights infringed upon by any interference of this kind, relinquish to him all the fruit that may fall upon his land at once, particularly if the roots of the trees have extracted nourishment from his soil, or the branches have encumbered it with their shade.

RULES FOR APPLYING GUANO.

For Wheat.—Four hundred lbs. Peruvian, six hundred lbs. Patagonian, six hundred lbs. African, and 1,500 lbs. Chilian per acre. It will be seen by this that the Peruvian is the cheapest. Plowed in for wheat is decidedly the better way. Oats, 125 lbs. to 150 lbs. harrowed in. Buckwheat, 100 lbs. harrowed in. Turnips, 400 lbs. plowed under. Top-dressing for clover or other meadows, 100 lbs. applied just before a storm; or it will do little or no good, being of a volatile nature the sun seems to dispel it. For corn, broad-cast, 400 lbs. plowed under; apply one table-spoonful to each hill, six inches from the seed if unadulterated; as a compost it must be mixed with nineteen parts of earth; but the very best way is to sprinkle it around the corn just before second howing. When used in accordance with the above directions, no other manure will or can compare with it.

ANSEL DOWNS.

Bating Hollow, L. I. July, 1847.

LOCKE'S PORTABLE CHAMBER SHOWER BATHS.

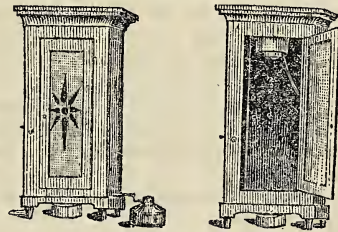


FIGURE 60.

THIS useful invention is not only ornamental to a bed-chamber, but, from its construction, is conveniently adapted for a wardrobe at all times except when used for the operation of bathing. It occupies a space of 24 to 30 inches square on the floor, and is from seven to nine feet high. It supplies a desideratum which has long and seriously been needed throughout the country; that is, a bathing apparatus that may be used even by ladies in their bed-chamber without the aid of an attendant, immediately on leaving their beds and before dressing, while the temperature of the body is in the very best condition to receive the bath. Hence the great economy of time and labor, to say nothing of a morning's luxury thus obtained, from which the body derives so much vivacity, strength, and vigor, strongly recommends it to the public. The price varies from \$6 to \$20.

CORN BREAD.—We are in the daily habit of eating corn bread made after the following recipe, by our good landlady, Mrs. Norton, of Astoria. It is equal to anything we ever tasted:—To one quart of sour milk add two teaspoonfuls, well stirred in, of finely pulverised salæratus, two eggs well beaten, one table-spoonful of brown sugar, and a piece of butter as large as an egg. Salt to suit the taste, and then stir in the meal, making the mixture about as stiff as for pound-cake. Now comes the great secret of its goodness. *Bake quick*—to the color of a rich, light-brown. Eat it moderately warm, with butter, cheese, honey, or sugar-house molasses, as most agreeable to the palate.

KEPHART'S PATENT FRUIT AND VEGETABLE PRESERVER.

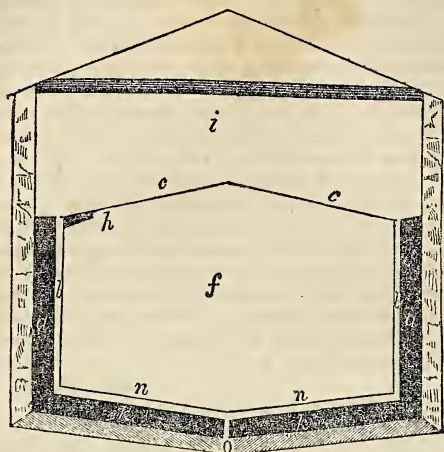


FIG. 61.

THE outer column in the above cut represent walls of stone, enclosing the inner construction.

The light shading at the bottom, descending to the centre, represents the earth.

The dark shadings, *a, a*, and *k, k*, represent two boardings, with from six to ten inches space; and this space filled with a substance that will best exclude heat.

f, is the fruit-room, in which articles are to be placed for preservation.

c, c, a floor or cover to the fruit room, made water-tight, with a coat of pitch over its surface to prevent moisture from penetrating.

i, an apartment to be filled with ice supported by the floor, *c, c*, and designed to contain ice enough, when filled, to last during the whole year.

b, b, and *d, d*, are spaces around the fruit-room, intended for the meltings of the ice on the top floor to pass off. This ice-water as it passes down these spaces around the fruit-room, and over the tight floor at the bottom, in the space *d, d*, serves to absorb any heat which may find its way through the non-conductor, *k, k*.

o, the outlet for ice-water.

h, hatchway, or entrance into fruit-room.

The fruit-room, *f*, is intended to be below ground, and the ice apartment, *i*, if desired, can be above; buildings above ground being now generally preferred for ice to those below.

It will be seen from the construction, that the non-conducting substances, *a, a*, and *k, k*, are designed to prevent the admission of heat from the earth, at the sides and bottom, in the fruit-room *f*; while the ice upon the floor, *c, c*, acts by keeping the fruit room at a constant uniform temperature, dry, and so cold as to exert a preserving influence upon articles placed therein.

As will be seen by the above drawing, its success depends entirely upon chemical truths.

The room *f*, in which fruits, &c., are placed for preservation, will remain the whole year at a constant, uniform temperature, so near the freezing point as to arrest the rotting as well as the ripening process of fruits, &c., without danger of freezing

them. That the fruit-room, *f*, will remain at this temperature will be evident from the fact, that the air, in contact with the floor, *c, c*, on which the ice rests, becomes nearly as cold as ice itself. This condensed air will immediately sink; while the air at the bottom of the room, if but half a degree warmer, will rise to the floor, *c, c*, and give off its heat; thus maintaining a uniform temperature, corresponding with that in contact with the floor, *c, c*.

Articles placed in the preserver, remain as perfectly dry and free from moisture, as if kept in the best ventilated apartments. The air descending from the floor, *c, c*, being always about half a degree colder than the boxes or barrels of fruit, &c., cannot deposit any moisture thereon; it being an established fact, that no object can condense moisture unless colder than the air coming in contact with said object. It is a theory long maintained by Liebig and other eminent chemists, that a temperature, dry, uniform, and near 33° Fahrenheit, will arrest the processes of decay which take place in fruits, &c.; but never, until the above invention, could the truth of the theory be tested. Two years of experiments have proved the truth of the theory, and established the entire success and utility of the invention; as, fruits, &c., foreign and domestic, viz. oranges, lemons, apples, pears, peaches, plums, grapes, &c., as well as the most delicate fruits; also potatoes, green corn, melons, &c., can be kept as long as desired; add to these butter, eggs, bacon, &c., which can be kept throughout the whole year, as fresh and sweet as when first placed in the preserver.

Fruits, &c., in common temperatures undergo saccharine fermentation, or what is known by the mellowing or ripening process, which is followed by the vinous, acetous, and putrefactive fermentations, which complete the rotting process. A temperature so low arrests the first process towards decay, so that fruits, &c., if placed in the preserver when first plucked from the tree or vine, will retain all their original juices, freshness, and flavor.

It will readily be seen, that the only way in which fruits, &c., can be kept during all seasons of the year, is by the plan offered in this invention, and one of its greatest advantages is, that fruits, &c., can be kept in all climates—not only in the North where ice is produced, but in the South, where it has become an article of extensive commerce; being shipped in large cargoes, buildings must be erected for its reception. For this purpose the room, *i*, will be most appropriate—thus affording the double facility of selling ice from the top, and preserving fruits, &c., below.

All desirous of a further knowledge of the operations of the preserver, can see one by addressing Flack, Thompson & Brother, Spring Garden, Philadelphia, or Peter Kephart, Western Hotel, Baltimore.

TO PREVENT THE RUNNING OF CANDLES.—If you wish to prevent the running or guttering away in an hour or two of an ordinary candle, place as much common salt, finely powdered, as will reach from the tallow to the bottom of the black part of the wick, when, if the same be lit, it will burn very slowly all night, yielding a sufficient light for a bed-chamber; the salt will gradually sink as the tallow is consumed, the melted tallow being drawn through the salt and consumed in the wick.

Ladies' Department.

RURAL PASTIMES, BY SOCIAL LABOR.

No. 1.

A few days ago, my dear kind uncle, the "Old Pennsylvania Farmer," who "weeds on both sides of the fence," told me he wanted to fulfil his promise to the readers of the *Agriculturist*, to tell their wives and daughters what a *Bee* is; but just as he was setting himself to write (a pretty serious affair with him), he found both the Canada thistle, and the *blue devils* in several fields, about a mile from home; and as the owners would not attend to it, he must go to work with his weeding-chisel, instead of his pen. He seemed so troubled and puzzled about it, that I offered to relieve him. After reading to him what I had written, he said it would do famously, and that he thought it quite as good as if he had done it himself. So, with his approbation, I send for the Ladies' Department, the following account of the

True Yankee Working-Bee.—The first I ever saw was in a wood, near a fine spring of water, where a stout-hearted young Vermonter and his pretty loving wife had lived during the summer, in a hastily-built shanty, but now wanted a more comfortable protection from the cold and storms of the approaching winter. He therefore felled as many trees as he thought would be wanted; and his kind neighbors, for many a mile around, came and offered their services to help him cut the logs, and put up his house. They assembled at the spring, in the dawn of a bright summer's day, old and young, numbering about five and twenty, each depositing his dinner-basket in the shanty, and went to work with such good-will, that before night they had the satisfaction of moving the goods and chattels, few enough to be sure, into the good-sized house, leaving the finishing and beautifying of the interior to be completed by him and his thrifty wife, as time and opportunity might serve.

It seemed as if the spirit of good feeling and the love of fun had taken deep root among these people, for nothing could be done without a *Bee*. A dozen or more men, from as many different farms, agreed to work together for each other during the summer and autumn; they reaped, mowed, plowed out potatoes, and husked corn, for one to-day, who in turn on the morrow lent his strong hand to help some one else; nor are the men alone in their love for this kind of social labor; their wives have also their own means of enjoyment, "taking comfort," as they call it. For instance, when, by the diligent use of all her spare minutes, a woman has succeeded in finishing a neat patch-work bed spread, made of the odds and ends of pretty calico, saved from her gowns and the children's frocks, the accumulation and work of years, she waits until the summer work is over, and then indulges herself in the long promised quilting-bee. The quilting-frame is borrowed, and the neighbors are invited, at least a week beforehand; bread and cakes are baked, and every nice thing made ready for the feast, the day before. The daily work is finished as soon as early rising and good management will admit of; the dinner is hurried rather too

quickly for comfort, and before the last touch can be put to the arrangements, the guests begin to arrive. The first who come, sew the spread to the frame; the next help to stitch and "lay it out," amid bursts of admiration of its beauties; and loud and long are the discussions whether it shall be quilted in *shells* or *diamonds*, *waves*, or *feathers*. At last, all is arranged, and all are accommodated with seats around the frame, often, in fine weather, under a spreading tree. The willing fingers fly, and verifying the old saying, that, "many hands make quick work;" the quilting proceeds rapidly, enlivened by many a merry song and cheerful tale; for every patch has a legend of its own; one recalls a wedding, another the christening of the first-born, and yet another brings sad memories of the early dead, the youngling of the flock, *not lost, but gone before*; and the delicate colored chintz of his first frock is worked more neatly than the rest. Supper is soon over, and by eight o'clock the quilt is cut from the frame, and held up in triumph to the admiring eyes of the men, who now are admitted, and allowed to partake of the cakes, apples, and cider, before the party breaks up, with perhaps half a dozen similar engagements on their hands.

E. S.

CHANGE OF COLOR IN HYDRANGEAS.

To change the color of the beautiful Chinese Hydrangea, various expedients are resorted to, and among others the following, with complete success:—The red-flowering variety can be made to bear flowers of a deep blue by being planted in swamp-mud, and left in the open ground during the year. As far north as Pennsylvania, they bear the winter with little or no protection. They delight in a marshy situation, and will not thrive in boxes nor elsewhere, unless supplied liberally with water. Watering with soap-suds twice or three times a week, has also made them blue; but the color is not clear. The most beautiful shade of blue I have known, produced artificially, was on some remarkably large plants, that were kept in the spring-house, with the branches tied up so as to occupy the smallest possible space, and the roots in the water in one corner. Here they were preserved from frost, and almost in a growing state all winter. Early in the spring, they were planted out in the shallow streamlet, near the spring-house, and were certainly the largest plants, as well as the prettiest "blue hydrangeas" I ever saw. This plan of keeping the roots immersed in water, I by no means recommend, though in this instance it answered perfectly well; for when I made the experiment with one, the roots rotted, and the plant was with difficulty saved from death, by much after care; but those taken from the ground and put into boxes with a little earth, and kept in the mild humid atmosphere of the spring-house, were very fine. This liability to change color when planted in what may be called their natural place of growth, has induced the opinion among florists, and with some justice, that their original color was *blue*. The same plants may be made to reproduce red flowers by putting them in common garden soil, and treating them in the usual way.

Eutawah.

E. S.

Boys' Department.

ANECDOTES OF ANIMALS.—No. 2.

A METHODICAL DOG.—A fine hunting-dog that had been spoiled for sport by being too much petted and over-fed, belonged, a few years ago, to one of my country friends, to whose beautiful farm, and well-ordered, well-educated, agreeable family, I was long in the habit of making an annual visit. This dog was allowed to follow the family to Friends' Meeting, and being very gentle, was also indulged with a place under his master's seat. At last, it was discovered that he went regularly, whether the family did or not, and always took his place where his master ought to have been, lay perfectly quiet until meeting broke up, and then soberly wended his way homeward, looking quite satisfied when he arrived, as if he had performed his part, whether the other members of the family had done their duty or not.

A GOOD STORY FOR THE BOYS.—The tales of travellers do not always receive so much credit as they deserve, this class of story-tellers being somewhat proverbial for drawing a long bow; but so many agree in the following, that I think we may as well believe it, as it is a good story at any rate.

It is said that at Cincinnati, or "Porkopolis," as it is familiarly called, swine are suffered to run at large in the streets, where they subsist and fatten on the refuse of the kitchens and markets, and gain an honest livelihood by performing the duty of scavengers to admiration. They are so numerous that hundreds have no acknowledged owners, but may be caught and killed by any who want a supply of pork.

Boys who like exercise on horseback, but who have no stabled steeds at command, catch and mount the first stately grunter they meet, and may be seen, at all hours of the day, galloping on these novel chargers, which do not always seem to dislike it. When they do, however, they are not long at a loss how to get rid of their riders, for they lie down in the first mud-hole they come to, and happy is the urchin who jumps off in time to avoid a plunge.

I have read a good story of a lazy, fat sow, which had no fancy for such unpaid for labor, and so soon as she saw a boy approaching, she would lie down, and obstinately resist kicks and entreaties to get up, unless her resting place happened to be a bed of filth, when she would soon rise and shake her fat sides, as if laughing at her roguish tormentors, who she well knew would now decline what they had before so eagerly sought. E. S.

Eutawah.

TREATMENT OF ANIMALS.—No. II.

In my last number I endeavored to point out the importance of a well regulated temper in every boy who has anything to do with the government or management of domestic animals. I will now point out another evil to which boys are sometimes addicted, that is often the cause of much mischief, and the ruin of the disposition of many an animal otherwise inclined to be gentle and kind. I allude to the wanton practice of teasing them by cracking whips about their ears, throwing sticks or stones at

them when they are doing no harm, tying straw, bushes, or bladders to their heels or tails, in order to see them run, making games at them, or interfering with them, in any way, while they are quietly taking their food, and a hundred other similar tricks, all of which, have, more or less, effect on the temper of the animals, if they are not the cause of total ruin. For instance, a horse that is teased by the thoughtless play of a stable-boy or groom, will first begin by pretending to kick or bite his tormentor; after a while he will do so in earnest, and at last the habit will be permanently fixed, which it will be almost hopeless to cure when once established.

Instances are on record, where biting horses have been punished until they trembled in every joint, and were ready to drop for the want of strength, but were never known, in any case, to be cured by this treatment, or by any other. The lash was forgotten in an hour, and the horse was as ready and determined to repeat the offence as before. Burckhardt, the traveller, however, makes mention of a mode known to the Egyptian soldiery for curing this propensity to bite, and practised by them with unfailling success. "They roast a leg of mutton, take it hot from the fire, and present it to the offending animal. He plunges his teeth in it, they stick fast in the hot meat, and the pain he endures makes him careful for the future to bite at nothing but his lawful food."

A story is related on no particular authority, that a nobleman had a wild horse which nobody could ride. "I know not what your lordship can do with him," said some one, "but to set the monkey on his back." So they put a pad on the horse, and clapped the monkey upon it with a switch in his hand, with which he beat the horse, and set him into a furious kicking and galloping, but pug still kept his seat. The horse lay down on the ground; but when he threw himself on one side, the monkey was upon the other. He ran into a wood to brush his rider off; but the monkey dodged from side to side, so as to avoid every tree and bush, until at last the horse was so sickened, fatigued, and broken-spirited, that he ran home to the stable for protection. When the monkey was removed, a boy was put in his place, and managed the horse with ease. The animal, it is said, never gave any trouble afterwards.

In that beautiful little book called the "Horse and his Rider," is mentioned a plan for taming intractable horses, which, we believe, has gone out of fashion only on account of the trouble attending it. The horse was tethered in his stall, with his tail to the manger, preventing him from lying down, and kept without food or sleep for forty-eight hours or more; men, who relieved each other by turns, being stationed at his head to rouse him whenever he began to doze. This method was the same in principle as that by which falconers used to tame their hawks; and there can be little doubt that the discipline which could subdue those savage and impetuous birds, would have been no less efficacious in bringing down the unruly temper of the more generous quadruped.

In my next number I shall speak of certain horse-taming exploits, in which will be mentioned the mysterious horse-tamer, Sullivan. S. A.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer *Britannia* we are in receipt of our foreign journals to the 4th of July.

MARKETS.—*Ashes* dull. *Cotton* an advance of $\frac{1}{2}$ d. per lb. *Flour and Grain* have experienced a great depression in price. *Beef, Pork, and Lard*, a slight advance. *Naval Stores* slow of sale. *Rice* has receded. *Tallow* in fair request. *Tobacco* no change. *Wool* a small advance and in active demand.

Money tolerably abundant at 5 to 6 per cent.

The Weather continued very fine, and the crops throughout Europe highly promising. In Ireland alone, do we hear of any disease in the potato, and even there, thus far, it has only shown itself slightly. The quantity planted is said to be much less than that of last year.

Effect of Speculations in Grain.—Many failures have recently taken place in Europe in consequence of the fall in prices of grain and flour.

Prices of Flour, Meal, Wheat, and Indian Corn in Liverpool:—

	JULY 3.	JUNE 26.	MAY 19.
	<i>Per Britannia.</i>	<i>Caledonia.</i>	<i>Hibernia.</i>
U. S. Wht. pr. 70 lbs.	\$2 04 a 2 52	2 82 a 3 94	3 57 a 3 68
U. S. Flour, per bbl.,	7 94 a 8 25	9 12 a 9 60	12 26 a 2 50
Ind. Corn, per qu.,	7 88 a 10 96	11 88 a 12 98	15 43 a 5 60
Ind. Meal, per bbl.,	4 00 a 5 00	5 72 a 5 96	—

The above table shows the decline from the highest point, May 19th, to Saturday, 3d of July. The prices are calculated at 24 cents to the British shilling, or $\frac{1}{5}$ to the £ sterling.

Measure of the English Quarter and Bushel.—Many persons do not clearly comprehend the "QUARTER," as applied to grain in England. It is this:—A ton is 2,240 lbs., a quarter of that is 560 lbs. and this is the weight of the British, or Imperial quarter of wheat. The U. S. standard allows 60 lbs. the British 70 lbs. thus $8 \times 70 = 560$. A bushel of wheat in the U. S. is equal to $\frac{6}{7}$ ths of an English bushel, and a British quarter of wheat is equal to $9\frac{1}{4}$ U. S. bushels of 60 lbs. each. A load of oatmeal is 240 lbs; a sack of flour is 280 lbs.

Australian Cotton.—The Rev. Dr. Lang has communicated to the Glasgow Argus his views respecting the practicability of growing cotton to a great extent in the northeastern portion of Australia. Dr. Lang states that at Moreton Bay, in latitude $27\frac{1}{2}^{\circ}$ S., he has plucked pods of cotton pronounced in Glasgow to be of first-rate quality. The climate is well adapted to the constitution of Europeans; there are inexhaustible tracts of fertile land; and great facilities for the shipment of produce.

Putting up Corn-Meal.—Messrs. Still, Day & Co., of Liverpool, call attention to serious loss in weight incurred on barrels of corn-meal, by the almost unavoidable leakage in every stage of shipping, landing, carting, warehousing, weighing, &c., and recommend fine canvas bags, holding 196 lbs. net each, as by far the preferable package. Shippers have also encountered heavy loss by the practice of corn-meal, warm from the kiln, being packed in barrels made from fresh unseasoned lumber, leading to the extraction of the sap from the wood by the meal, to the prejudice of the whole contents. This would be avoided by the use of bags.

Splendid Glycine Sinensis.—A celebrated plant at Warminster, on the wall, is 151 feet long by 13 feet deep, making 1963 superficial feet, and from the same plant is an arbor, swung across the gravel-walk, which is 24 feet by 17, making a total of 2371 feet. This surely surpasses the one at Speen Nursery, which is said to cover 1180 feet.—*Gardeners' Chronicle.*

Analysis of the Fibre of the Flax-Plant.—It may be useful for the information of those who are not familiar with the processes of the laboratory, to mention that every plant, when exposed to a strong heat in the cru-

cible of the chemist, is found to consist of two parts—a part of which is combustible and flies away, being composed of the elements which the plant, during its growth, had derived from the air; and a fixed incombustible ash, containing the materials supplied by the soil.

A portion of the fibre, dried at 212° , was burned in a clean platinum, and ignited, until all organic matter had burned away, when there remained in the crucible a quantity of a very light bulky ash, which possessed the same slightly yellowish-white tinge which the fibre exhibited. A qualitative examination of this ash showed that it contained the following ingredients of the soil—iron, lime, magnesia, soda, chlorine, sulphuric acid, phosphoric acid. One hundred parts of the dry flax-fibre was found to contain 0.54 parts of ash, so that $2\frac{1}{2}$ cwt. of dressed flax would contain rather more than $1\frac{1}{2}$ lbs. of the ingredients of the soil.

A quantity of ash was prepared from the same sample, and was found to possess the following composition in the 100 parts:—

Carbonate of lime,	62.00
Sulphate of lime, gypsum,	7.15
Phosphate of lime,	13.66
Oxide of iron,	3.99
Carbonate of magnesia, with traces of chloride of sodium (common salt)	2.00
Silica,	11.20

100.00

It is evident, therefore, from the above analysis, that the fibre of the flax-plant, even after steeping and dressing, contrary to what is commonly supposed, does not consist merely of the condensed gases of the air, but robs the soil of a considerable amount of its most valuable ingredients. These consist, as we might naturally suppose from the treatment which the fibre has undergone, chiefly of the most insoluble ingredients of the inorganic matter of the plant, the carbonate of lime, and the phosphate of lime and silica; but it appears that the steep water does not abstract all the soluble salts of the fibre, as the sample examined contained considerable traces of the chloride of sodium (common salt).—*Ibid.*

Ashes not Good to Mix with Guano.—Fresh wood-ashes are not good to mix with guano. Those which have been leached or long exposed to the air, especially if they contain much charcoal, will do well.—*Ibid.*

Analysis of the Orange-Tree (Citrus aurantium).—The materials employed in this examination were supplied by M. Da Camera, of the island of St. Michael's. After describing the methods of preparing the ash, and the routine of analysis, the authors sum up with the following results:—

	Root.	Stem.	Leaves.	Fruit.	Seed.
Per centage of Ash,	4.48	2.74	13.71	3.94	3.30
Potash,	35.43	11.69	16.51	36.42	40.28
Soda,	4.52	3.07	1.68	11.42	0.92
Lime,	49.89	55.13	56.38	24.52	18.97
Magnesia,	6.91	6.34	5.72	8.06	8.74
Oxide of iron,	1.02	0.57	0.52	0.46	0.80
Chloride of sodium,	1.18	0.25	6.66	3.87	0.82
Phosphoric acid,	13.47	17.09	3.27	11.07	23.24
Sulphuric acid,	5.78	4.64	4.43	3.74	5.10
Silicic acid,	1.75	1.22	4.83	0.44	1.13
	100.00	100.00	100.00	100.00	100.00

These results confirm the observations of Saussure, that the largest amount of mineral constituents is deposited in those parts of the plant in which the process of assimilation appears to be most active. In the ashes of the root, the stem, and the leaves, the joint amount of the lime and magnesia exceeds the rest of the mineral constituents. [May not the gardener test the value of this analysis by the application of phosphates, such as cow-dung, superphosphate of lime, to the roots of trees?—Ed]—*London Lit. Gaz.*

Editor's Table.

TRANSACTIONS OF THE N. Y. STATE AGRICULTURAL SOCIETY FOR THE YEAR 1846.—The present volume of this Annual Document is larger, more ably got up, and better illustrated than any volume preceding. It contains 716 octavo pages, embracing the Reports of most of the County Societies, and several original papers contributed by persons well known for their scientific attainments and practical knowledge of the subjects on which they have written. We would call particular attention to the article on the Hessian Fly, by Dr. Fitch; on the Canada Thistle, by Mr. Stevens; on Special Manures, by Dr. Gardner; and on the Choice of Trees and Shrubs, by Mr. Browne; also, the Report on Fruits, by Messrs. Allen, Young, and Wendell; on Farms, by Mr. Beekman; on Cheese-Dairies, by Mr. Johnson; on Butter-Dairies, by Mr. Denniston.

Although we believe there has been no lack of energy or ability on the part of the officers of the Society in the performance of their duties, it is to be regretted that several counties in this great State are not mentioned in this volume at all. How is this? Is not the amount of money appropriated to each county in the State for agricultural improvement, a sufficient stimulus to induce the farmers to experiment on their crops and stock, and make known the results for the general good of all?

DEATH OF MR. JAMES CAMAK.—We deeply regret to record the death of this highly useful and excellent man. This melancholy event took place on the 16th of June last, at his late residence in Athens, Georgia. He was long and favorably known as the editor of the Georgia Journal, as the first President of the Central Bank, and of late as the editor of the Southern Cultivator. He was always ready for any good work for the advancement of agriculture at the South, and few will be more missed among the planters of that region. We believe Mr. Camak was a native of New Jersey, but had resided many years in Georgia.

SEMI-ANNUAL EXHIBITION OF THE L. I. HORTICULTURAL SOCIETY.—The late show of flowers, fruits, and decorations of this Society, held at Flushing, came off with equal if not surpassing brilliancy as on former occasions. The exhibition by Messrs. Winter & Co. has perhaps never been exceeded by any one individual or establishment in this country. The filling up with contributions of one entire room of thirty by forty-five feet, and by one contributor only, is a circumstance that will afford to those not present, an idea of the resources of Flushing in getting up exhibitions of the kind. Although there were several other contributors, the Messrs. Winter carried off *twelve* of the Society's premiums.

FLORAL AND HORTICULTURAL EXHIBITION OF THE AMERICAN AGRICULTURAL ASSOCIATION.—The last monthly exhibition of this Society was held at their rooms on the 23d of June; but owing to the postponement of the time of meeting a week beyond the period first announced, the attendance was not so general as might otherwise have been anticipated. The articles exhibited were numerous, of choice qualities, and were displayed with considerable taste. It will be seen by referring to our advertising columns that the Annual Exhibition of the Association will be held on the 8th and 9th of September next, at the Lyceum Building, near Prince Street, in Broadway. A list of premiums will be given in our next number.

STRAWBERRIES AND MILK.—A letter from H. C. Seymour, Superintendent of the Erie Rail-Road, writes to Mr. Marsh, the Secretary, under date of 24th of June, as follows:—"The milk train of Tuesday night took to New York 80,000 baskets of strawberries.

These baskets are intended to contain one pint each; but say that three baskets contain one quart, which is quite within bounds. Then we had 26,667 quarts, or *eight hundred and thirty-three bushels*. These strawberries will no doubt weigh 65 pounds to the bushel, but say 60; then we have *twenty-five tons of strawberries alone*. The boxes and baskets weigh as much more; so that the freight was at least *fifty tons*. By the same train we had 28,000 quarts of milk, which weigh (a pint a pound) *twenty-eight tons*; and including cans, 35 tons; making a freight of *eighty-five tons* of strawberries and milk. The milk by both our trains equals 50 tons (50,000 quarts) daily; and including cans, 63 tons. The Rockland county people receive nearly \$3,000 a day for their strawberries. The value of such an avenue of communication to this city, can scarcely be estimated. It gives us the goods things of the country in cheapness and abundance."

STRAWBERRIES IN CINCINNATI.—The Cincinnati Advertiser says, that in 26 days, there were sold in that market, 4,572 bushels of strawberries. It adds one quarter for those sold in market houses, at stands, in the streets, to hotels, private houses, steamboats, confectionery establishments, and for those sold upon farms, making a total of 5,490 bushels. This is a falling off from last year's crop, of one third, which exceeded 9000 bushels.

AGRICULTURAL STATISTICS OF THE STATE OF NEW YORK FOR THE YEAR 1845. POPULATION 2,604,495.

Class of Crops.	Amount raised in Bushels.	Average Quantity in Bushels per Acre.	No. of Bushels to each Inhabitant.
Wheat,	13,391,770	15	5.14
Barley,	3,108,704	19	1.19
Rye,	2,966,322	10	1.14
Oats,	26,323,051	32	10.11
Buckwheat,	3,634,679	28	1.40
Peas,	1,761,503	20	0.68
Beans,	162,187	31	0.06
Turnips,	1,350,332	180	0.52
Potatoes,	23,653,418	110	9.08
Indian Corn,	14,722,114	30	5.65

HARPERS' UNITED STATES ALMANAC for 1848, contains, besides astronomical calendars and garden memoranda answering to every state in the Union, a variety of useful, curious, and instructive information not generally known to the public. Price 6 cts.

THE PIG.—A Treatise on the Management, Feeding, and Medical Treatment of Swine, &c. By William Youatt: Republished by Lea and Blanchard, Philadelphia, pp. 175. Price 70 cents. We noticed the English edition of this work in our June number. The American edition is a fac simile of this, with all its engravings. It is neatly got up, and will be found highly useful to all who are engaged in rearing swine, and in the fattening of pork. That part on the diseases of the pig is particularly valuable, and has been written with Mr. Youatt's accustomed ability.

THE AMERICAN DRAWING BOOK—a Manual for the Amateur, and Basis of Study for the Professional Artist—especially adapted to the Use of Public and Private Schools, as well as Home Instruction. By J. G. Chapman, New York. Price 50 cents. "Any one who can learn to write," says the author in his preface, "can learn to draw," which will be obvious to any one who will take the trouble to examine his work. This book is recommended by some of our first artists,

as the best primary and elementary treatise on drawing that has ever been published. Professor Durand says, "It is admirably calculated, by introduction into our common schools, easily to incorporate the knowledge of this interesting art into the most ordinary education." Another says, "I can truly say, that the benefit of such a work would have saved me many a year of toil, spent in misapplied labor, to obtain the knowledge conveyed by it in its pages."

AMERICAN HISTORY; comprising Historical Sketches of the Indian Tribes; a Description of American Antiquities, with an Inquiry into their Origin, &c. By Marcus Willson, Author of School History of the United States, comprising a Chart of American History, &c. New York: Mark H. Newman & Co., pp. 672 octavo. Price \$2.50. We have long wanted such a work in our library for reference, for which purpose it is the very best of the kind yet published. It embraces a short account of all the principal events in the History of North America, from the discoveries by Columbus down to the present time, with the highly useful appendage of marginal dates, analyses, notes, and a variety of maps and illustrations.

PICCIOLA.—The Prisoner of Fenestrella, or Captivity Captive. By X. B. Saintine, A New Edition, with Illustrations. Philadelphia: Lea and Blanchard, pp. 154, 12mo. Price 75 cents. This beautiful little work, which has assumed the position of a classic in several languages, has universally been read with satisfaction. It embraces a pleasing tale, not a romance, nor a drama, the scene of which is laid in Italy under the reign of Napoleon. For some, it will possess a charm, for others, utility, and for all its moral bearing is excellent.

MEMOIRS OF MADAME DE STAËL, AND OF MADAME ROLAND. By L. Maria Child. A New Edition revised and enlarged. New York: C. S. Francis & Co., pp. 248, 18mo. Price 50 cents. No women have commanded more admiration among their contemporaries than those celebrated in these memoirs. Both were of surpassing genius, differing in its kind; yet both were alike amiable and the centre of domestic affections. We rejoice in the good fortune of the one, and mourn over the tragic fate of the other. Perhaps it is on this account that we more admire Madame de Staël, and better love and more deeply sympathize with Madame Roland. The biographical sketches, in common with Mrs. Child's productions, are spirited and poetical, and we heartily commend them to the perusal of the females of America.

THE HORSE AND HIS RIDER; or, Sketches and Anecdotes of this Noble Quadruped, and of Equestrian Nations. By Rollo Springfield. New York: Wiley & Putnam, pp. 203, 16mo. Price 75 cents. This is a pleasing little book, beautifully illustrated, and is worthy of the subject of which it treats.

THE COMPLETE POETICAL WORKS OF THOMAS CAMPBELL, with a Memoir of his Life and an Essay on his Genius and Writings. Illustrated with Fine Steel Engravings. New York: D. Appleton & Co., pp. 330, 18mo. Price \$1.50. To those who wish a handsome, neat, and cheap edition of the life and writings of this immortal poet, their wants will be supplied by the present edition.

TOWER'S KILN-DRYING APPARATUS.—This invention consists of a frame-work built of brick, arched at the top, enclosing a sheet iron cylinder, made up of separate tubes about two inches square, coupled together by iron castings. An iron shaft passes through the cylinder, sustained by a support at each end, and over a pulley at one end of this shaft runs a belt from some of the machinery of the mill, which thus furnishes the motive power of the machine. The grain runs from a feeder into the head of the cylinder, thence into the tubes, and as the cylinder revolves, one end of it being elevated, the grain has a revolving motion, gradually

passes forward, and through, into a receiver at the other end. A small furnace or common stove in the bottom of the kiln, with pipes passing from it under the cylinder, furnishes the heat, and the rapidity of the drying process depends upon the fire and the elevation of the head of the cylinder, both of which can be regulated at pleasure.

A kiln of this description with a cylinder 13 feet long and 16 inches in diameter (which will require about twenty tubes), will readily dry from three to four hundred bushels per day, consuming not over half a cord of wood, requiring no attention except to regulate the heat; and the whole cost of the machine cannot exceed one hundred dollars.

Its capacity can readily be increased by increasing the size of the cylinder, or what probably would be preferable, by placing several in the same arch, and a trifling increase of expense will furnish a machine which will dry one thousand bushels per day.

The great advantage of the invention is that the corn (and other grain can be dried in the same manner) has a constant rotary motion, and therefore is not burned on one side before it is dry on the other; thus the corn comes out as bright and yellow as when it left the ear, and an article of meal is furnished for market altogether superior in appearance and value.

From the accounts received from gentlemen who have witnessed the operation of Col. Tower's method of kiln drying, we have no doubt of its entire success. It will prove of great advantage not only to the enterprising farmers of the West, but to the corn-growers of our country at large.

PRICE OF FLOUR.—We are indebted to a friend for the following average of prices of flour in this city from the year 1824 to 1846 inclusive. It is an interesting and we believe a reliable statement. The averages have been taken on the prices during the season of canal navigation.

Years.	Av. Price.	High. Price.	Lowest Price.	Dif. in Price.
1824.....	\$5 38	\$5 50	\$5 25	\$ 25
1825.....	4 77	4 87	4 64	24
1826.....	4 61	5 13	3 88	1 25
1827.....	4 72	5 75	4 63	1 12
1828.....	5 78	7 50	4 50	3 00
1829.....	5 69	7 00	4 50	2 50
1830.....	5 19	5 25	4 88	37
1831.....	5 69	6 25	5 19	1 06
1832.....	6 02	6 25	5 75	50
1833.....	5 55	5 75	5 38	37
1834.....	5 01	5 31	4 81	50
1835.....	6 34	6 94	5 75	1 19
1836.....	8 19	10 00	7 00	3 00
1837.....	9 64	12 00	8 50	3 50
1838.....	8 09	9 00	7 00	2 00
1839.....	6 99	8 75	6 00	2 75
1840.....	4 94	5 63	4 75	88
1841.....	5 61	6 75	4 88	1 87
1842.....	5 36	6 50	4 13	2 37
1843.....	4 93	5 38	4 50	88
1844.....	4 53	4 88	4 13	75
1845.....	5 00	6 88	4 25	2 63
1846.....	4 90	6 00	3 75	2 25

Highest average price \$9.04 was in 1837; lowest average price \$4.53 was in 1844. Highest price \$12 was in 1837; lowest price \$3.75 was in 1846.—*Albany Argus*.

SHOW OF THE N. Y. STATE AG. SOCIETY AT SARATOGA.—Those who intend to compete for premiums should remember that *all the animals and articles must be ready for examination on Tuesday the 14th of September*. The first day will be devoted exclusively to the examination by the judges of the animals and articles exhibited, and no person will be admitted within the enclosure on that day but the officers, judges, and exhibitors.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JULY 21, 1847.

ASHES, Pots,.....per 100 lbs.	\$4 88	to	\$4 94
Pearls,.....do.	6 12	"	6 19
BALE ROPE,.....lb.	5	"	6
BARK, Quercitron,.....ton.	37 00	"	40 00
BEANS, White,.....bush.	1 00	"	1 50
BEEFWAX, Am. Yellow,.....lb.	26	"	30
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	12
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	12
COTTON,.....do.	10	"	14
COTTON BAGGING, Amer. hemp,....yard.	11	"	14
FEATHERS,.....lb.	25	"	34
FLAX, American,.....do.	71	"	9
FLOUR, Northern and Western,.....bbl.	5 00	"	5 75
Fancy,.....do.	6 00	"	6 25
Southern,.....do.	5 00	"	5 75
Richmond City Mills,.....do.	—	"	—
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 75	"	4 00
GRAIN—Wheat, Western,.....bush.	1 00	"	1 25
Southern,.....do.	1 00	"	1 10
Rye,.....do.	77	"	78
Corn, Northern,.....do.	60	"	65
Southern,.....do.	55	"	60
Barley,.....do.	50	"	52
Oats, Northern,.....do.	35	"	38
Southern,.....do.	40	"	45
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.	40	"	55
HEMP, Russia, clean,.....ton.	275 00	"	280 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	7	"	9
HORSE,.....lb.	10	"	12
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	3 62	"	3 75
Sheet and bar,.....lb.	44	"	54
MEAL, Corn,.....bbl.	2 75	"	3 25
Corn,.....hhd.	20 00	"	23 50
MOLASSES, New Orleans,.....gal.	30	"	32
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 25	"	2 50
Pitch,.....do.	88	"	1 06
Rosin,.....do.	50	"	65
Turpentine,.....do.	2 50	"	2 62
Spirits Turpentine, Southern,....gal.	35	"	37
OIL, Linseed, American,.....do.	65	"	75
Castor,.....do.	80	"	1 00
Lard,.....do.	85	"	90
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	1 50	"	1 60
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	10 00	"	13 75
Prime,.....do.	8 50	"	9 50
Smoked,.....lb.	7	"	11
Rounds, in pickle,.....do.	5	"	7
Pork, Mess,.....bbl.	14 00	"	15 00
Prime,.....do.	11 00	"	13 62
Lard,.....lb.	9	"	10 1/2
Bacon sides, Smoked,.....do.	6	"	8
In pickle,.....do.	5	"	7
Hams, Smoked,.....do.	8	"	12
Pickled,.....do.	6	"	10
Shoulders, Smoked,.....do.	6	"	8
Pickled,.....do.	5	"	7
RICE,.....100 lbs.	4 50	"	5 50
SALT,.....sack,	1 25	"	1 40
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	6	"	9
Timothy,.....bush.	1 75	"	3 50
Flax, clean,.....7 do.	10 00	"	11 00
rough,.....do.	9 25	"	9 50
SODA, Ash, cont'g 80 per cent. soda,....lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	6	"	9
SUMAC, American,.....ton.	35 00	"	37 50
TALLOW,.....lb.	8	"	9
TOBACCO,.....do.	2	"	7
WHISKEY, American,.....gal.	24	"	25
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	30	"	35
Half blood,.....do.	20	"	25
Common do,.....do.	18	"	20

REMARKS.—It will be seen that the prices of grain and flour have fallen very materially since our last. We think they cannot go any lower this season; and should bad weather set in during the European harvest, or the potato rot again appear, prices must advance. Provisions have receded slightly. In other things the changes higher or lower are scarce worth noting.

Money continues abundant and business good.

The Weather on the whole has proved quite favorable for the harvest. A great burthen of Hay has been cut. The crops of Rye, Wheat, Barley, and Oats, prove more than an average. Corn is coming on very promisingly, and with six weeks of good weather, will turn out a large crop. This, however, will be owing more to the great breadth of land planted than to an uncommon yield per acre. Potatoes already harvested prove a good yield. The quality is excellent, and we hear nothing as yet of the rot. Cotton, Rice, Sugar, and Tobacco promise fairly. It is too early in the season to decide positively as to these crops. So far as we can learn there is no evidence of caterpillars, though recent heavy rains at the South may yet develop this pest in more than usual numbers.

ACKNOWLEDGEMENTS.—The History and Travels of the Young Indian Chief, Kah-ge-gah-bowh, alias George Copway, from the author; A series of papers on the Culture and Application of the Turnips, from David F. Jones, of Ireland, written by himself; Premium List of the Annual Exhibition of the American Agriculturist Association, to be held on the 8th and 9th of September; Transactions of the Rensselaer County Agricultural Society for the year 1846; Premium List of the Oneida Agricultural Society for 1847.

TO CORRESPONDENTS.—Communications have been received from B. V. French, W. Bacon, J. H., Wm. R. Prince, M. W. Phillips, R. Harmon, Jr., J. B. Marsh, E. S., Junius Smith, A. New Yorker, S. A.

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Troy, June 15th, 1847. JY3t GEO. VAIL.

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POTOMAC SILK FARM FOR SALE.

THIS FARM contains four hundred acres, and lies on the north side of Potomac River, in Stafford County, Va., six miles north east of Fredericksburg, a flourishing town of 4000 inhabitants, a half mile east of the Richmond, Fredericksburg, and Potomac Railroad, and within six hours travel of Washington City and six hours from Richmond, Va., by Railroad. This farm has advantages of no ordinary character, for the abundant production of Grasses, as well as Corn, Wheat, Oats, and all the varieties of Fruit suited to the climate. The latitude is 37° 20'.

One hundred and fifty acres of the land is open, and the remaining 250 acres well stocked with Cedar, Pine, Hickory, Beech, and several varieties of Oak. There are from 30 to 40 acres of very valuable meadow land, capable of producing from 35 to 40 bushels of Indian corn per acre. There is also on this farm (the *cream* of the whole establishment) an inexhaustible supply of the finest *blue*, or *green sand* Marl, about 12,000 bushels of which have been scattered on 27 acres of the land. The following are the proofs of its efficacy as a manure: An acre of land covered with broom-grass (which represents the *next* to the last stage of poverty), received a top-dressing of 500 bushels of this Marl, and then had three gallons of clover-seed scattered in the midst of the broom-grass. Rather more than twelve months after sowing the clover-seed, the clover had complete possession of the soil and had reached the height of 13 to 24 inches. Again 12,000 bushels of this marl were scattered on 3½ acres of land, which was infested with that pest of the farmer, *red sorrel*, sometimes called *sheep sorrel*. The sorrel has disappeared, and a beautiful growth of white clover now occupies its place. The lands here with the use of this marl are capable of producing abundant crops of Kentucky *blue grass*, Timothy, orchard-grass, Herds-grass, Red and White Clover, Lucerne, and Bokhard or Gigantic Clover. Besides, abundant crops of Gamma-grass may be produced by digging holes in the midst of the broom-grass, and planting its roots 18 inches apart. If left for several years without mowing or grazing, it would yield (on land worthless for any other culture), about three tons of nutritious hay per acre. This grass possesses in a high degree the remarkable quality of subduing by its own unassisted efforts, antagonistic plants, and taking complete possession of the soil. It must, however, be placed on a high and dry soil, as it does not do well in low situations, even on the most fertile soils. If emigrants wish to find a place where they can raise an abundance of Milk, Butter, and Cheese, this is the place for them. Several *never-failing* springs of the finest water are on this farm, as well as unfailing streams passing through it in various directions. The improvements are three log-houses and a large framed building, 80 feet long, 30 broad, and a story and a half high. At a moderate expense this building could be converted into two good dwellings. Persons desirous of examining this Farm may call on

LAYTON Y. ATKINS. 1t*

Fredericksburg, Va., July, 1847.

HORTICULTURAL EXHIBITION.

AT the suggestion of the State Agricultural Society, whose Fair will be held at Saratoga Springs on the 15th September, the American Agricultural Association have changed the time of holding their Exhibition to the 8th and 9th of September. All persons desirous of aiding the cause of Horticulture are earnestly invited to exhibit specimens of Flowers, Fruits, and Vegetables, and to compete for Premiums.

Programmes may be obtained of Mr. James Hogg, Seedsman, 562 Broadway, opposite the Rooms; of any of the principal Seedsmen in New York, or of the following Executive Com. LUTHER BRADISH, WM. COVENTRY H. WADDELL, JAMES LENOX, SHEPPERD KNAPP, THEO. FRELINGHUYSEN, RUFUS KING DELAFIELD, ARCHIBALD RUSSELL, R. L. PELL, EDWARD CLARK, D. P. GARDNER. Agricultural Rooms, Lyceum Building; 561 Broadway, New York.

PRINCE'S PREMIUM STRAWBERRIES.

WM. R. PRINCE & CO., Proprietors of the Nurseries at Flushing, will transmit their Catalogue of Strawberries and other Fruits to those who do not possess it. The Assortment is incomparably superior to any other, and comprises the choicest varieties which are nowhere else attainable; many of which are now offered for the first time. Orders enclosing the amount (not less than \$5) will be promptly executed and forwarded as desired. *Flushing, L. I. July, 1847.*

SEED WHEAT.

THE celebrated White-flint, Hutchinson, Red-chaff, and Blue-stem, Wheat for sale. The above are winter varieties, and are considered the best now grown in New York. Seed Rye also, together with a general assortment of field-seeds of various kinds on hand.

A. B. ALLEN & CO., 187 Water st. N. Y.

GRASS SEEDS.

TIMOTHY, Red-top, Blue-grass, Furze-top, Rye-grass, and Red and White Clover seed of the best quality for sale.

A. B. ALLEN & CO., 187 Water st. N. Y.

SALE OF SHORT-HORNED CATTLE. MERINO AND SOUTHDOWN SHEEP.

IN consequence of becoming overstocked, I will offer for sale at my residence in the Town of Auburn, on Wednesday, the 8th of September next, *Forty Head of Short-Horned Cattle*, consisting of about thirty cows, heifers, and ten young bulls. I shall select from my whole herd one bull "Symmetry," two cows and two heifers, which will not be offered for sale. The balance, being about forty, will be sold without reserve. The original cows of this herd were selected from the best of the herds of the late Return Van Rensselaer, Francis Rotch, and L. F. Allen, whose reputation as breeders of fine stock requires no eulogy from me. The younger stock were bred with much care from my bulls. Archer and Symmetry; both have received the prize as the best bulls at the exhibitions of the N. Y. State Agricultural Society. "Archer" was bred by Francis Rotch, of Buttercups, from his famous imported cow "Adaliza" and got by "Rolla." (See Coats's Herd Book, No. 4991). Symmetry was bred by Geo. Vail, of Troy, out of his cow "Dutchess," and got by his Duke of Wellington (See Coats's Herd Book, No. 3654, or American Herd Book, No. 65,) both of which he imported from the herd of Thomas Bates, of Yorkshire, England. Full pedigrees will be prepared and printed by the 1st of July—to be had at the office of American Agriculturist, N. Y., Cultivator Office and Agricultural Rooms, Albany, Office of Genesee Farmer, Rochester, L. F. Allen, Black Rock, and at my residence. Also, I will sell Ten (10) three-fourths and half-bred cows and heifers.

After the sale of the above Cattle, I will sell at auction one hundred (100) Merino Rams, 10 to 15 South Down Rams, Sixty (60) Merino and thirty (30) grade Merino Ewes—the Ewes sold in pens of three. That gentleman not acquainted with my sheep may form some opinion of their value, I make the following statement, viz:—I have cut five (5) clips of wool from my flock of sheep—the clip of 1846 averaged a fraction over four (4) pounds per head. (This was the largest). One of the five clips I sold at thirty-nine cents, the other four I sold at different times to one Manufacturing Company at forty cents per lb. *all at my own house.*

Terms of the Sale Cash or approved Endorsed Notes payable at the Bank of Auburn at three months with interest.

J. M. SHERWOOD.

Auburn, Cayuga County, N. Y. June 1st, 1847.

jy3t

WANTED

A SITUATION as overseer on a plantation, by one who has devoted his whole life to practical and theoretical farming. An interview can be had by addressing L. G., care of the Editor of the Agriculturist, 187 Water st., New York. au3t

PERUVIAN GUANO FOR SALE.

THE Peruvian Company have directed their agent in the United States, Mr. Bartlett, to raise the price of Guano to \$50 per ton, it will now be sold by us at the following prices:—

One ton or more.....2½ cts. per lb.

Smaller quantities.....2½ to 3 " " do.

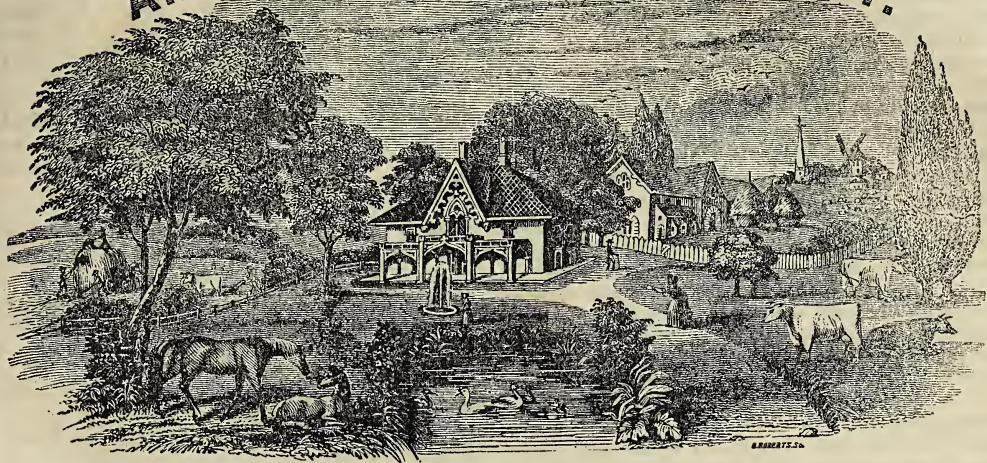
No allowance for tare, and no charge for packages. Cartage extra.

This Guano is warranted genuine, and direct from the Peruvian Company's agent. A. B. ALLEN & CO., 187 Water-street

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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VI.

NEW YORK, SEPTEMBER, 1847.

NO. IX.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

HOW TO MAKE JAMS.

JAMS, or conserves of fruit and sugar, are all made by boiling either the pulped or bruised fruit over a fire, with one-half of its weight to an equal weight of loaf-sugar, until the mixture becomes a jelly when a little is placed on a cold plate. When sufficiently thick, the half-fluid mass should be passed through a coarse hair-sieve, while hot, in order to remove the stones and skins of the fruit, and poured into pots or glass jars. The latter may be covered with paper dipped in brandy or with pieces of bladder closely tied on. The following are the proportions employed in making some of the principal preserves:—

1. *Apricot Jam.*—Six dozen apricots, stoned and pared, or flesh of the fruits, two and a half pounds; white sugar two or three pounds; will yield about four and a half pounds of jam.

2. *Cherry Jam.*—Stoned cherries four pounds; white sugar two pounds; improved by adding about two pounds of red currants, or a pint of currant-juice.

3. *Gooseberry Jam.*—Picked and stalked gooseberries (red or yellow) 22 lbs.; white sugar 12 lbs.; will produce 26 lbs.

4. *Orleans Plum Jam.*—Equal weight of fruit and sugar; improved by the addition of a few ripe raspberries or gooseberries.

5. *Raspberry Jam.*—Picked raspberries and white sugar, of each 14 lbs.; improved by a little red or white currant-juice. Product 26 lbs.

6. *Strawberry Jam.*—Picked strawberries and white sugar, of each seven pounds; will make 13 lbs. of jam. May be made with or without the addition of currant-juice.

7. *Apple Jam.*—Equal weight of fine flavored sour apples pared and quartered, and of white sugar with the addition of one quince.

APPLE-ORCHARDS.—No. 1.

THE introduction of the common apple-tree into the North American colonies, dates back to the earliest periods of their settlements. In the Middle, Northern, and some of the Western States, no branch of rural economy has been pursued with more zeal, and few have been attended with more successful and beneficial results, than the cultivation of orchards. It was not undertaken on an extensive scale, however, until about the commencement of the present century, when, according to the Transactions of the Massachusetts Agricultural Society, the hardy yeomanry of the soil entertained the opinion that "the moderate use of cider, as a common beverage, was highly conducive to sound health and long life." It appears from Dodsley's London "Annual Register," that in the year 1768, the Society for promoting Arts, &c., at New York, awarded a premium of £10 to Thomas Young, of Oyster Bay, for the largest nursery of apple-trees, the number being twenty-seven thousand one hundred and twenty-three. Between the years 1794 and 1808, Mr. William Cox, of Burlington, New Jersey, enriched his lands in that vicinity with extensive orchards, containing in the aggregate several thousand trees, which occupied a space of seventy or eighty acres; and within and since that period, numerous other orchards have been planted in various parts of the country, equalling and even surpassing them in extent. Among the largest, and perhaps the most select, are those of Mr. Robert L. Pell, of Ulster county, New York, which have been planted about twenty years, and are said to contain twenty thousand trees.

Choice of Varieties.—So great is the diversity of taste, in regard to the merits of this fruit, and so numerous are the varieties which are rapidly be-

coming more and more multiplied, it is difficult to make out a list of those best adapted for the dessert, the kitchen, or general use. This branch of knowledge, we think, forms a very important feature in practical horticulture, and is one of the most desirable objects to which individuals and societies for the encouragement of experiments in cultivation can direct their attention. It would, at least, have a tendency to diminish the embarrassing list of varieties, by confining themselves to the best sorts.

Apples, for the various purposes in domestic economy, recommend themselves to our choice by very different qualities; though some few varieties are almost equally well adapted to all purposes. In those for the table, we require sweetness with a subdued and pleasant acidity, and a delicate, aromatic flavor. In the kitchen-apple, size, the quality of keeping, and a considerable acidity are the principal requisites; and in those intended for boiling and for making sauce, or apple-butter, acidity is an indispensable property. The best apples for cider, are those which yield a juice of the greatest specific gravity; and it is believed to be true that cider made from trees grown on a strong, clayey soil, has more strength, and will keep better, than that made from trees on a sandy soil. The red and yellow color of the rind is considered as good indications of cider-fruit, and apples of the various degrees of these colors are decidedly preferable to those of which the rinds are green. The pulp should be yellow, the taste rich, and somewhat astringent. Apples of a small size, if equal in quality, are always to be preferred for cider to those of a larger size, in order that the rind and kernels may bear the greatest proportion to the pulp, the latter of which affords the weakest and the most watery juice.

The varieties selected and recommended by the Committee of the N. Y. State Agricultural Society, best adapted for domestic use and exportation, and suitable to be cultivated in the State of New York, are as follows:—

SUMMER APPLES.

Early Harvest, Early Strawberry, Large Yellow Bough, Early Joe, and Williams' Favorite

FALL APPLES.

Fall Pippin, Golden Sweet, Gravenstein, Jersey Sweeting, Porter, Rambo, Detroit Red, and Belle-bonne.

WINTER APPLES.

Baldwin, Yellow Belle Fleur, Hubbardston Nonesuch, Jonathan, Newtown Pippin (green), Northern Spy, Blue Pearmain, Rhode Island Greening, American Golden Russet, Roxbury Russet, Swaar, Ladies' Sweeting, Talman's Sweeting, Esopus Spitzenburg, Vandervere, Waxen, and West-field Seek-no-further.

The following are recommended by the Committee of the Horticultural Society of Genesee Valley, N. Y., the names being placed in the order of ripening:—

SUMMER APPLES.

Early Harvest, Early Strawberry, Red Astrachan, Sweet Bough, or Yellow Bough, and Golden Sweet.

FALL APPLES.

Early Joe, Porter, St. Lawrence, Jersey Sweeting, Gravenstein, Fall Jenneting, and Holland Pippin.

WINTER APPLES.

Twenty Ounce, Fameuse, Red Canada, Peck's Pleasant, Yellow Belle Fleur, Swaar, Talman's Sweeting, Rhode Island Greening, Esopus Spitzenburg, Baldwin, Green Sweeting, Northern Spy, Roxbury Russet, and Yellow Newtown Pippin.

The following list represents the kinds regarded in Massachusetts and New England generally, as well suited to a Northern climate; they command a high price in Boston market:—

SUMMER APPLES.

Benoni, Bough, Early Harvest, Margaret (early red), and Williams' Favorite.

FALL APPLES.

Gillyflower, Gravenstein, Hawthornden, Jersey Sweeting, Lyscom, Minister, Summer Pearmain, and Porter.

WINTER APPLES.

Baldwin, Yellow Belle Fleur, Danvers Winter Sweeting, Rhode Island Greening, Ribstone Pippin, Roxbury Russet, Swaar, Talman's Sweeting, Lady, and Canada Gray.

The following named varieties we select from the catalogue of D. Landreth and Fulton, of Philadelphia, which are believed to be eminently worthy of culture in that region:—

SUMMER APPLES.

Red Astrachan, Bevan, English Codlin, Early Queen, Early Harvest, Summer Queen, Lippincott, Siberian Crab, Woolman's Harvest, Summer Pearmain, and Red Juneating.

FALL APPLES.

Alexander, Irish Codlin, White Codlin, Doctor, or Dewitt, Grindstone, Hawthornden, Maiden's Blush, Morgan, Holland Pippin, Blenheim Pippin, Pound, Porter, Roman Stem, Rambo, and Vandervere.

WINTER APPLES.

Baldwin, Yellow Belle Fleur, Carthouse, Cumberland Spice, Rhode Island Greening, Ladies' Sweeting, Gates', Harrison, Lady, or Pomme d' Api, Talman's Sweeting, Lady Finger, Blue Pearmain, Pennock's Red, Bullock Pippin, Golden Pippin, American Pippin, Michael Henry Pippin, Ribstone Pippin, Hollow-cored Pippin, Newtown Pippin (green and yellow), Priestly, Roxbury Russet, Red Seek-no-further, Newtown Spitzenburg, Esopus Spitzenburg, Kaighn's Spitzenburg, Moore's Sweeting, Swaar, Tewkesbury Blush, Wine, or Hay's, Winesap, Winter Queen, and Yorkshire Greening.

Among the choice varieties which succeed well in Ohio, we select the following, hoping that some correspondent will soon furnish us with a more perfect list:—

All's Russet, Yellow Belle Fleur, Cooper, Red Detroit, Putnam's Russet, Philips' Sweeting, Newtown Spitzenburg, or Ox-eye, White Pippin, Winesap, and Vandervere.

In the present and the succeeding numbers of the Agriculturist, we propose to give figures in outline, furnished us principally by Mr. Starr, of the N. Y. Farmer and Mechanic, copied from Landreth's Dictionary of Gardening, with descriptions of some of the most prominent varieties of apples, which, we trust, will be acceptable to such of our

readers as do not possess a more elaborate work devoted wholly to fruits.

WILL "Philom," of Grand Isle County, Vermont, favor us with any hints respecting the advantages he possesses in regard to a valuable manure? The information he asks for will probably be found in the series of articles on "Apple-Orchards," the first of which appears on the preceding pages.

SMITH'S IMPROVED VENTILATING SMUT-MACHINE.

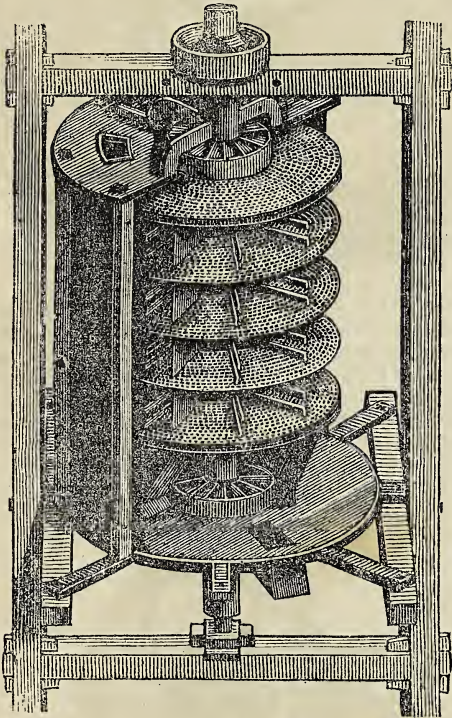


FIG. 62.

This machine has been in use since 1838, when letters patent were granted by the United States. When first built, it was represented to be the most perfect smutter ever invented, and has since proved itself so. It is difficult to say what length of time it will endure. There are now running those which have been in use seven years, and others five or six years, that have not required the least repairing, and work in all respects as well as when first put up.

These machines are warranted by the inventor to excel all others in use, and to give perfect satisfaction; and a trial will be granted to any person who may wish the same before purchasing. The prices vary from \$80 to \$275 each, according to size, capacity, or fixtures attached.

NUTRITIOUS BREAD.—Boil half a pound of rice in three pints of water, till the whole becomes thick and pulpy. With this and yeast, and six pounds of flour, make your dough. In this way, it is said, as much bread will be made, as if eight pounds of flour, without the rice, had been used.

CULTIVATION OF TURNIPS.—No. 3.

Storing the Crop.—Turnips, wherever the soil and climate are favorable, may remain in the drills and be taken up as they are wanted. But this can only be done with safety, on light, dry, well-drained land, secure from the depredation of animals, and in a country free from wintry frost or snow. Hence, on no account should this be attempted on the more retentive or undrained soils, or in any portion of the Middle or Northern States.

Only the harder and more compact varieties of turnips, such as the yellow Aberdeen, the golden Maltese, and the Swedish (ruta-baga), should be attempted to be stored at all. The white globe, the tankard, and other tender kinds, are very difficult to keep either in the field or elsewhere, and should only be grown for early culinary use, and as a preparation to the cattle, &c., for the harder and less palatable yellow and Swedish kinds. As a general rule, in the Middle and Western States, turnips may remain in the drills until the latter end of November; but in no case should the storing be delayed beyond the falling of snow or the closing of the ground by frost. In the more Southern States of the Union, the sowing may be continued from August until January or February, so that a succession of crops may be had, and used, as occasion may require, without the trouble of storing.

Preparatory to storing, the turnips should be carefully drawn out of the ground, by the hand or otherwise, and the top leaves and tap-root cut off at one clean cut about an inch from the bulb. In doing this, the greatest care should be observed that the skin of the turnip be not in the least cut or bruised, as a bulb so injured is almost certain to rot in the heap when stored, which not only is apt to cause the loss of the bulb itself, but often the decay of those near it. All turnips so injured should be thrown aside for immediate use. The top leaves may be given to cows, young cattle, or sheep, and the bulbs stored according to the climate, or the uses to which they are to be applied.

The turnips intended for early consumption may be put into a cool, dry cellar, or turnip-house, and used as circumstances may require; but those designed for long keeping should previously be exposed a day or two in a dry place, and then arranged in heaps about seven feet broad at the base, and as long as may be necessary, formed up to a narrow top. A layer of straw, say three or four inches thick, should first be spread on the ground, and on this a stratum of turnips about two feet deep; and then other layers of straw and bulbs are to be formed alternately, until the top be carried to a point, the projecting ends of the straw being turned up to prevent the turnips from rolling out. The whole should then be covered with straw, about six inches deep, not thrown on at random, but straightened out as if for thatching, and laid on so as to shed off the rain. Around the base of the heap a small trench should be dug, for guarding the turnips from the wet.

By the foregoing method of storing, it will be understood that the object aimed at is to expose the turnips to as low a degree of temperature as possible, without freezing, by the circulation of air through the heap, which, it is well known, will cause them to keep well in any temperature be-

tween 32° and 50° F.; but if the climate be such as to expose them to freezing cold, as in most parts of the Middle and Northern States, the heaps must be more thickly covered either with earth or straw.

Another plan of storing which we have known to succeed well in some parts of New England, is to bury the turnips late in the fall, in a dry, gravelly, or well-drained soil, just below the reach of frost, and in the April following, we have seen them dug up in nearly as hard, and sound a condition as at the time they were stored. The *main and absolutely necessary points* to be observed in this mode of storing, is, to keep the turnips secure from wet, or frost, and as near as possible to a temperature of 32° F., which, if it cannot be done by the natural porosity of the soil, must be affected by under-draining and inter-mixing them with reeds, straw, or hemlock boughs.

CORN AND COFFEE-MILLS.

It has long been a great desideratum to such as do not reside convenient to a mill, and to those who only wish now and then to grind a mess of hommony or some such trifling thing, as well as to travellers and armies on the march, in a thinly settled or savage country, to possess a mill of so light a weight and convenient form, as to be easily transportable, yet strong, durable, and of simple construction. This desideratum we think has been attained in the mills described below, which will be found suitable for grinding rice, corn, wheat, rye, barley, oats or any other kind of grain into *meal*; but they do not flour wheat and rye well, because they *cut* the grain with their iron teeth instead of *mashing* it between stones. For this reason they are better than stones for corn, and equally good for all kinds of grain, when flouring it for market is not desired. They are also suitable for grinding coffee and spices of all kinds.

These mills are made of plates of cast iron, and will usually last to grind from 500 to 1000 bushels of grain. After being worn out, new plates can be supplied, which will grind an equal number of bushels. The grain or spice, when put into these mills, falls from the hopper among coarse teeth set on a spiral shaft, which, in revolving rapidly, break it coarsely, and then pass it in between plates which can be screwed up to grind it to any required fineness.

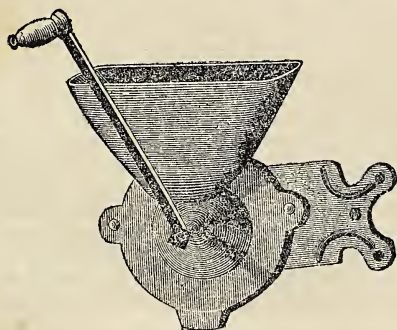


FIG. 63.

FIG 63 is properly a coffee or spice-mill, but will grind grain of any kind. It is sold without a frame, and is so constructed as to be fastened to a post or board in any part of the house, or it can be attached to a simple frame. It grinds from eight to six-

teen quarts per hour depending mainly on the speed at which it is run. Weight, 10 lbs. Price \$2. Price of extra plates 50 cents.

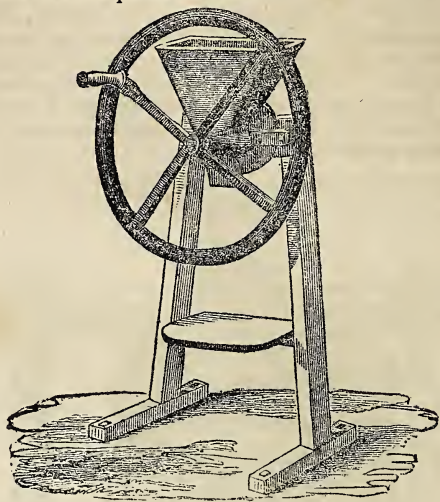


FIG. 64.

Fig. 64 is used for grinding grain, coffee, and spices, as desired. It is usually operated by hand, though it can be constructed to run by other power. It grinds from one to two bushels per hour. Weight without the frame, 50 lbs.; with the frame, 64 lbs. Price, without frame, \$6.50; with frame, \$7.00. Constructed to move by horse or other power, the price with frame complete would be \$9.00. Price of extra plates, \$1.25.

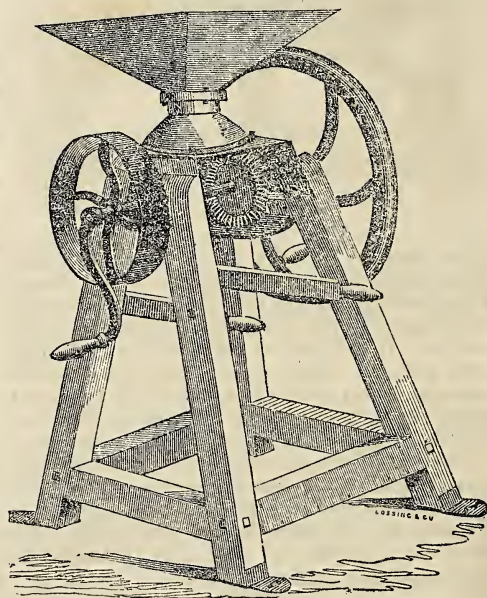


FIG. 65.

Fig. 65 is used for the same purposes as Fig. 64. It is too large to be propelled by hand to advantage. Weight without the frame, 190 lbs.; with the frame, 221 lbs. Price without the frame, \$29; with frame, \$30. Price of extra plates per pair, \$4.

THE DOMESTIC FLORA OF CHINA.—No. 3.

On the sides of the Canton River, both below and above the city, large quantities of the water lily, or lotus, are grown, which are enclosed by embankments in the same manner as the rice-fields. This plant is cultivated both as an ornament, and for the root, which is brought in large quantities to the markets, and of which the Chinese are remarkably fond. In the summer and autumn months, when in flower, the lotus fields have a gay and striking appearance, but at other seasons the decayed leaves and flowers, and the stagnant and dirty water, are not at all ornamental to the houses which they surround.

In the course of the spring, the Gardens of Fa-tee are gay with the tree peony, azaleas, camellias, roses, and various other plants. The azaleas are splendid, and reminded me of the exhibitions in the gardens of the Horticultural Society at Chiswick, but the Fa-tee exhibitions were on a much larger scale. Every garden was one mass of bloom, and the different colors of red, white, and purple blended together, had a most beautiful and imposing effect. The principal kinds grown were *Azalea indica*, *indica alba*, *phanicea*, *lateritia*, *variegata*, and the yellow *Azalea sinensis*. I may mention in passing, that I found the latter plant wild on the Ning-po hills, so that there is no doubt of its being a genuine Chinese species. The air at this season around Fa-tee is perfumed with the sweet flowers of *Olea fragrans*, and the *Magnolia fuscata*, both of which are grown extensively in these gardens. Dwarf trees, as may be supposed, occupy a principal station; they are trained into the most grotesque and curious forms. The plants which stand next to dwarf trees in importance with the Chinese are certainly chrysanthemums, which they manage extremely well, perhaps better than they do any other plant. So high do these plants stand in the favor of the Chinese gardener, that he will cultivate them extensively, even against the wishes of his employer; and, in many instances, rather leave his situation than give up the growth of his favorite flower. I was told that the late Mr. Beale used to say that he grew chrysanthemums in his garden for no other purpose than to please his gardener, not having any taste for this particular flower himself.

Tree peonies are not natives of the south of China, but are brought down in large quantities every year, about the month of January, from the northern provinces. They flower soon after they arrive, and are rapidly bought up by the Chinese to ornament their houses, after which they are thrown away, as they do not thrive well so far south as Canton or Macao, and will not flower a second season. They are sold according to the number of flower-buds they may have upon them, many of them fetching rather high prices.

I purchased a collection of *Tree-Paonias* during my first visit to Shanghai in the winter of 1843, which were said to be very splendid things, and entirely different in color from any plants of the kind which were known in England. I had of course, at that time, no opportunity of seeing their flowers, and was now, therefore, particularly anxious to get some which were in bloom, and had intended to send my old friend back again to Soochow for another collection, stipulating, however,

that the plants should this time have blooms upon them. One morning, as I was going out into the country, a short distance from Shanghai, I was surprised at meeting a garden laborer with a load of Moutans all in full flower, which he was taking towards the city for sale. The flowers were very large and fine, and the colors were *dark-purples*, *lilacs*, and *deep-reds*, kinds of which the very existence had been always doubted in England, and which are never seen even at Canton. Two English gentlemen who were excellent Chinese scholars, being with me at the time, we soon found out the name of the Moutan district; and from the state of the roots in the man's basket, I was quite certain that the plants had not been more than an hour or two out of the ground, and that consequently the place where they were grown could not be more than six or eight miles from Shanghai, a surmise which I afterwards found to be perfectly correct.

MEETING OF THE NEW YORK FARMERS' CLUB AT GREENPORT.

AN adjourned meeting of this Club was held in the Presbyterian Church, at Greenport, on the evening of the 4th of August, having convened there with a large number of guests, on the invitation of the Long Island Railroad Company, for the object of instituting inquiries as to the cause of the present condition of the uncultivated lands in the vicinity of said road, and to determine as far as practicable, whether they are susceptible of being turned to profitable account for agricultural purposes.

Philip Schuyler, Esq., President of the Board of Agriculture, being called to the chair, briefly stated the object of the meeting, and requested some remarks from the Secretary of the Club.

Mr. Meigs rose and said, that he had always taken a great interest in Long Island, which had its origin in his acquaintance with Dr. Mitchell, who had truly its welfare at heart. He spoke of the character of the island and its favorable location for the purposes of farming and gardening, and read numerous extracts from the Geological Survey of the State, showing that its formation is such as to remove every doubt as to the susceptibility of the lands in question being carried to a high state of cultivation. He advocated deep plowing, the application of special manures, a judicious system of rotation of crops, and condemned the ruinous practice of robbing the soil of all its products, without restoring in return even a *straw*.

Dr. Peck, of Jamaica, offered an opinion, that the only possible reason why such immense tracts remain uncultivated was an hereditary prejudice which had long existed against them, but which had been controverted by every reasonable experiment. Good crops of potatoes, buckwheat, and rye, he said, have been raised on these lands, by the ordinary modes of cultivation, and in some instances vegetables have been raised, which took the premium at the agricultural shows. He expressed a belief that the soil was naturally good, and can be rendered fruitful at a very small expense. He then referred to an early history in his possession, in which no mention is made of any portion of Long Island being barren. In that work, Hempstead Plains,

which now principally lie uncultivated, and are represented as wild and unproductive, were then described as the admiration of all who visited them, being covered with tall grass, and an abundance of wild flowers. The opinion that they are naturally unproductive, has originated since that time; but how it arose, he added, it was impossible to say.

Professor Renwick, of Columbia College, being called forward, remarked that he had been familiar with the plains of Long Island from his infancy, and that it had long been a question whether they could be rendered productive. Some years ago, he said, the subject was agitated, and samples of soil from Hempstead Plains were obtained, which, in being subjected to chemical analyses, were found to contain all the elements requisite to fertility. The reason these do not at present produce, he attributed to the inert condition of some of the materials of which they are composed, which might readily be brought into activity by the application of quicklime, wood-ashes, or putrescent manures; but if the two former were applied alone, the land would soon become exhausted and run to waste. He concluded by saying, that land in other parts of the country, similar in every respect to that in question, which was considered by the early settlers as unfit for cultivation, has, on experiment, proved to be well adapted to the growth of wheat.

Dr. R. T. Underhill and Mr. James J. Mapes were then called upon to give their views in relation to the subject, whereupon they denied the well established fact that much of the valuable parts of manures leach downwards in porous soils by means of rains or melted snows, and contended that *every particle of all manures* has an upward tendency, finally escaping at the surface, or is taken up by plants. In support of this doctrine, they stated that in grave-yards vegetation is *always* rank, and when the soil is sandy or porous, the gases from dead bodies will rise from a depth of six feet, and exert an influence on the verdure at the surface.

Dr. U. disapproved of the mode of planting fish in the hill as is usually practised by Long Island farmers, in the cultivation of corn, and recommended them to be buried deep in the soil, in order that their effects might be longer and better felt (a).

Mr. M. made an attempt to explain the action of manures on soils, and the character and mode by which plants receive their food. One of the chief uses of manures, he said, was to lubricate the surfaces of the particles of the soil, in order to facilitate the upward movement of gases, and for the more ready admission of the atmosphere about the roots. All plants, he contended, derive their nutriment from the atmosphere, and not from the soil, in proof of which he referred to an air-plant he had seen growing on a wall (b).

The audience was also addressed by General Adoniram Chandler, Dr. Manly, and others from New York, which, for the want of more space, we regret to omit.

(a) We should judge that Dr. Underhill, from the manner he talks, knows little or nothing of the general principles which govern the most common operations of nature; and that not even his knowledge is guided by his own experience. He tells the

farmer to plant deep, in a leachy soil, one of the most soluble of manures, with a vain belief that in due time *every particle* will rise again to the surface, in the form of gases, and be attended with the best results! The fact that considerable portions of all putrescent manures rise towards the surface either in solution or in gas, to be taken up by plants, or dispersed in the air, is nothing new; but to say that no portion is ever fixed in the soil, or carried downwards by the dissolving effects of rains, would be as absurd as it is incorrect. Every truly practical and scientific man knows that water, as it ordinarily falls from the clouds, will absorb at least 500 times its volume of pure ammoniacal gas (one of the most valuable ingredients in our richest manures), and convey it to the ocean, unless it be arrested in its course, or become fixed on the way by charcoal, sulphate of lime (plaster), or by some other means. He is also aware that water is capable of taking up a large amount of carbonic acid gas, the chief food of all known plants, and that it will hold and retain in solution other organic matter, as well as nearly every fertilizing salt. For further information on these points, see the account of an interesting experiment by Mr. Wilson on page 292 of the present number, under the head of Solvent Action of Rain-Water on Soils.

The attempt to prove the upward tendency of manures by the effect of dead bodies on plants in grave-yards, of leachy soils, is fallacious; for numerous instances can be pointed out, of grave-yards of this description, where the vegetation is most feeble in its character, and in some cases will scarcely produce at all. A very good illustration of what is here said will be found in the large burial ground at Sag Harbor, which has been established in that place upwards of one hundred years.

(b) In these remarks by Mr. Mapes, there are involved misconceptions of fact, which might lead those not conversant with the subject to very wrong conclusions, and ultimately tend to pernicious results. The point at issue is, whether manures, as ordinarily applied, directly contribute in any degree, as the food of plants, or whether they merely serve to loosen the particles of the soil, in order that the gases of the atmosphere may the more readily circulate about the roots. If the latter were true, the mere mixture and frequent stirring of the soil, around the roots of the plants, as proposed by M. Kretschmar, of Germany, would be all that is requisite without the application of any manure; but unfortunately for his theory, on experiment, it did not succeed, as might have been foreseen; for but few of our cultivated plants will thrive without mineral food, held in solution by water, and taken in by their roots.

In corroboration of the fact that plants draw no small amount of mineral matter from the soil, we have only to state, that, from careful analyses, an average crop of wheat will remove something over 200 lbs. of mineral matter from an acre of land; and that an acre of good flax will rob the soil to the extent of 320 lbs.

HOW TO PREPARE A SUPERB MUSTARD.—Take ground mustard 3 lbs.; common salt 1 lb.; and mix with vinegar, grape-juice, or white wine.

EXCURSION ON LONG ISLAND.

It may not be known to many of our readers, that a belt of land running east and west nearly through the centre of Long Island, of an average width of 6 to 7 miles, and more than 40 miles long, and containing upwards of 150,000 acres, with the exception of a few scattered farms here and there, has been suffered to remain in its original uncultivated state ever since the settlement of this country. The reason of this is, the inhabitants of Long Island have taken it for granted, that it is too poor a quality of soil to be cultivated to advantage; hence that portion of the tract, which, like Hempstead Plains, was originally found without trees, has been turned out to pasturage in wild common, while the other part, which was covered with a moderate growth of pine and oak, has been retained in forest, to be cut off for timber and fire-wood as the wants of its individual owners and the city of New York demanded. But since the opening of canals and railroads through the dense forests of the great West, and to the rich coal mines of Pennsylvania and Ohio, fire-wood has depreciated in price so much, that it is no longer an object to the Long-Islanders to send it to market. Thus this vast tract of land has become almost valueless to its owners.

For the past three or four years, more particularly, the possessors of this property have been making various experiments for the purpose of ascertaining if it could not be cleared and brought into profitable cultivation. With a view of assisting in this laudable movement, the Board of Agriculture of the American Institute, on the 4th of last month, invited nearly 200 persons to make an excursion through this tract as far as Greenport and Sag Harbor. The company was made up principally from the enterprising practical farmers of Long Island and its neighborhood, together with gentlemen from this city. An excellent railroad runs nearly the whole length of the Island, almost directly through this tract of land. It commences at the South Ferry, in Brooklyn, opposite New York, and terminates at Greenport, on Peconic Bay, a distance of 95 miles. This distance is usually run in the short space of four to five hours.

James M. Weeks, Esq., president of the railroad company, generously provided an extra train gratis for the special accommodation of the party. At nine o'clock, A. M., the signal was given to our fiery iron-horse to start, when, after a few preliminary snorts of his hot steam-breath, he cleared the depot at a single bound—dashed through the long, dark Brooklyn Tunnel in a twinkling, and then took up his swift career over the delightful open country, stopping at various stations to take up groups of gentlemen waiting to join the party.

At most of these stations the company got out with a view of examining the soil, and to take specimens for future analyses. Instead of being found, as many supposed, of a pure sandy formation, it proved to be more or less loamy and tolerably charged with vegetable matter. Patches of clearings have been made within the past five years every few miles on the whole of this route; and we noticed that wherever judiciously manured and cultivated, the crops were quite an average, and in many places very large. We shall hereafter give a brief account of these, together with hints at some

length as to the best methods of cultivating this soil. At present, these lands can be purchased in their wild state, with the wood taken off, at from \$3 to \$5 per acre—a marvellously low price when we consider their contiguity to the great city of New York, and the productive farms and gardens into which it would be so easy to transform them.

We arrived at Greenport at about five o'clock P. M., where we found excellent accommodations prepared at the various hotels for the whole party. At seven o'clock the company assembled at the Presbyterian Church, for the purpose of discussing the different qualities of the soils of the part of the island through which we had just passed, and the best means for their successful culture. The substance of the remarks made upon the occasion will be found on the preceding pages.

At eight o'clock the next morning the company took a steamboat and sailed up the picturesque bay of Shelter Island, twenty miles to Sag Harbor. Landing at this port, they divided into parties and strolled around for a few hours for the purpose of examining the country in the neighborhood. After this, we returned through Gardiner's Bay to Greenport, thus circumnavigating Shelter Island. Here we dined and then started for home, where we arrived at seven P. M. highly gratified with our excursion.

PAINTING CHEESE WITH SPANISH-BROWN.

Our friend Holmes, of the Maine Farmer, says he likes all our directions for making cheese, in the August number, except that at the end recommending the painting of the cheese with Spanish-brown and beer. We think upon reflection, he will not consider "that part as entirely useless," when he is reminded, that, without some kind of covering, cheeses, by long keeping, are generally found to become unpleasantly dry and to lose a portion of the delightful aromatic flavor so much relished by all lovers of good cheese. Besides, a thin covering on cheese is useful in preventing the absorption of moisture and pernicious gases, as well as for keeping off vermin and dirt. This covering only saturates the rind and not the body of the cheese, at all, and this is cut off when eaten and thrown away. We would condemn the use of annatto, as a pigment for coloring cheese, as it is frequently adulterated with red-lead, a dreadful poison, which has often caused great injury to the consumers of cheese, and is capable of even taking away life itself.

PUBLIC SALE OF MERINO AND SOUTH-DOWN SHEEP.—We wish our flock-masters to bear in mind, that the great sale of Col. Sherwood's choice flocks will be held at Auburn, September 8th. We can speak confidently of the merits of these animals, as we have personally inspected them, and have samples of the entire fleece in our possession, which for weight and fineness combined are seldom equalled. *Forty Head of Choice Short-Horned Cattle* and several superior grades are also to be sold at the same time and place.

SEASON FOR SELECTING SEED-CORN.—The farmer is reminded that the season is at hand for selecting seed-corn. The ears should be the second ripe in the field, with cobs having small butt-ends, well filled out, and two or more to each stalk.

CHOICE OF TREES AND SHRUBS FOR CITIES AND RURAL TOWNS.—No. 3.

I now proceed to give a general notice of the native trees that have been most planted in this country for the purpose of ornament and shade, and of the manner in which they have often been treated; also, to point out such others as appear to be best adapted to the objects in view.

Among the earliest trees, cultivated by our forefathers, as before remarked, the *American Elm* stands conspicuous, and has long been a great favorite, particularly in New England, where it is very generally employed as a shade-tree for lining avenues, highways, the planting of parks, &c., and as such, there are few, if any, more appropriate for these objects; and, as a picturesque tree in woodland scenes, it is rarely surpassed by any of its forest brethren, in point of beauty or in size. When standing in a wood, in a soil it loves, it naturally grows upright, and rises higher than the generality of other trees; and, when standing insulated and alone, in a newly-cleared field, with its top decayed and dead, save here and there a small tuft of leaves stretching forth its naked and withered arms, it forms a striking emblem of the aged patriarch, who has outlived all his fellows, and is a stranger in the land which gave him birth, in whom death is already struggling with life, and will soon gain the ascendancy. But when cultivated or grown in a pasture, or in the lawn standing in lonely majesty, towering to the height of a hundred feet, with its lowermost limbs diverging outwards and upwards, at a few yards above the ground, and afterwards dividing and subdividing into numerous smaller ramifications, and diffusing on all sides its pendulous branchlets, floating lightly in the air, it forms an object of dignity and grandeur. This tree, too, is among the first to salute the early spring with its light and cheerful green, which, though discordant at first with the gloomy hue of the pines and firs, partakes of a darker tint, as the season advances, and unites in harmony with their unchanged boughs. In autumn, also, before the nightly frosts and chilly winds have done their work, the bright golden foliage of the elm kindly mixes with the various hues of the poplar and the maples, which display all shades of red, from the deepest crimson to the brightest orange; a tint that contrasts agreeably at this season, with the pale-yellow, sober foliage of the birch and the beech, with the different shades of brown in the bass-wood and the ash, or with the buff yellow of the larch. The beech, the ash, and the larch, however, do not, in general, take much part in this gorgeous pageant. The ash is chiefly leafless at this time, and its glory has passed away before the other two have scarcely begun to fade. Indeed, "the glossy green of the beech is perhaps more effective than if it partook of the general change; and even the gloomy blackness of the resiniferous trees, by relieving and throwing forward the gayer tints, is not without effect." But, unfortunately, the foliage of this noble tree serves as food for several kinds of insects, or their larvæ, while its bark and wood are pierced by others for the purpose of making provision for their young. It is subject to but few diseases, however, and is not liable to any serious accidents, except in being

occasionally struck by lightning, or prostrated by violent winds.*

Next to the elm, the *Sugar-Maple* is accounted as the finest among our shade-trees; and, in good taste, has long been planted along streets and avenues, in pastures, and ornamental grounds, fine illustrations of which are manifest in the town of Stockbridge, Massachusetts, and in the beautiful village of Homer, in this State. This most noble and majestic tree, when growing in open situations, with ample room to spread on every side, where all the branches are exposed to the free action of light, is an object of great beauty. And it is no less beautiful in our forest or woodland scenes, in autumn, when it puts on its bright-orange and deep crimson robes. At first the extremities of the boughs alone change their color, leaving the internal and more sheltered parts still in their verdure, "which gives to the tree the effect of great depth of shade, and displays advantageously the light, lively coloring of the sprays." Later in the season, on the contrary, when the tints become more and more gorgeous, and the full beams of the sunshine fall upon the large masses of foliage, the warm and glowing colors of the whole summit possess a great deal of grandeur, and add much to the beauty and effect of the landscape. From the graceful and regular form of its summit, the rich verdure, and cleanliness of its foliage in summer, as well as in spring, the planting of this tree cannot be too highly recommended either for country or town.

The *Button-wood* (sycamore), from its wide geographical range, its rapidity of growth, and the facility with which it can be propagated, has been more universally planted, as a shade-tree, in the United States, than any other species. Gilpin, in speaking of this tree, says—"The Occidental plane has a very picturesque stem. It is smooth and of a light ash-color, and has the property of throwing off its bark in scales; thus naturally cleansing itself, at least its larger boughs, from moss and other parasitical encumbrances. This would be no recommendation of it in a picturesque light, if the removal of these encumbrances did not substitute a great beauty in their room. These scales are very irregular, falling off sometimes in one part, and sometimes in another; and, as the under bark is, immediately after its excoriation, of a lighter hue than the upper, it offers to the pencil those smart touches which have so much effect in painting. These flakes, however, would be more beautiful if they fell off in circular form, instead of a perpendicular one—they would correspond and unite better with the circular form of the bole. No tree forms a more pleasing shade than the Occidental plane. It is full-leaved; and its leaf is large, smooth, of fine texture, and seldom injured by insects."† If to these considerations we add the lofty height this tree attains, and the open character of its foliage, which admits the free passage of light and air, it is obvious that the button-wood, when associated with the willow, the alantus, the silver-leaved maple, or the elm, is an appropriate subject for lining avenues and public highways. Unfortunately for this tree, however, it has been severely

* Vide *Trees of America*, pp. 510 et 512.

† *Forest Scenery*, 1., p. 63.

affected with a malady, for the last five years, from Maine to Virginia, which seems to have baffled all skill in attempting to investigate its cause, and which, at one time, seemed to threaten the total extinction of the race. The past year, however, the evil was less formidable, the branches put forth with more vigor, and it is generally believed that the malady is passing away.

The *Tulip-tree* (white-wood), like the occidental plane, occupies an extensive range, and has been successfully cultivated throughout the Atlantic States, for the purpose of ornament, from Newburyport, in Massachusetts, to St. Mary's, in Georgia, and west of the mountains beyond the Mississippi. When planted in a soil it loves, and where it has room to expand on all sides, next to the button-wood, it attains the amplest dimensions; while the perfect straightness and uniform diameter of the trunk, the more regular distribution of its branches, and the greater richness of its foliage and flowers, which are rarely attacked by any insect, give it a decided superiority over that tree. When grouped or associated with the willow, the ailanthus, the silver-leaved maple, or the elm, the tulip-tree forms a most desirable acquisition to parks and avenues, as well as to public highways. This tree, however, has but few fibrous roots, and consequently is somewhat difficult to be transplanted, unless a ball of earth is suffered to adhere to the roots, when removed.—*Transactions of the N. Y. State Ag. Soc.*

FARM-FENCING.

Good fences are among the most important constituents of the farm, and absolutely indispensable to well regulated agriculture in this country. But it is a serious question whether *excessive* fencing is not a prevailing fault with the American farmer, the *northern* ones at least. In stony districts, walls are made to a great extent, for a two-fold purpose; one to get rid of the surplus stones which encumber cultivation—the other to subdivide the enclosures into small compass for the convenience of *pasturage*, &c. For, in the division of grain and root-cropping, they are of little or no utility, as the extensive and highly cultivated bottom lands bordering many of our large rivers, where they cannot be maintained by reason of the annual freshets, will testify. The construction of new fences, and their annual support and repair, are a heavy and onerous tax to the farmer, and it therefore becomes a desideratum with every calculating man to what extent they shall be made. Mr. Biddle, in a late address to the Philadelphia Agricultural Society, estimates the annual cost of building and repairing fences in Pennsylvania alone, at upwards of \$3,000,000; at least one-half of which could advantageously be dispensed with. In New England, how many thousands of miles of stone wall are made for no other apparent purpose than to get rid of the stones, without adding at all to the utility or ornament of the farm? I venture to say, that at least one-half of the whole extent of the stone walls of New England might be advantageously dispensed with; or, by making the boundary and road fences of heavier and more durable character, fewer subdivisions would be required, and the enclosures all the better for profitable cultivation.

Good fencing, in excess, is not the prevailing

fault, for the character of American fences is generally deficient both in strength and durability. The *system* needs reform. In the stony districts of the United States, the walls are usually low and carelessly laid; often thrown down by frost, and frequently more a subject of annoyance than otherwise. Now, what should be done as a remedy? I answer, lay them deeper and broader at the base, where the material is abundant; at least, one or two feet below the surface of the ground should lie the foundation; and two and a half to three feet thick, gradually narrowing to a foot or eighteen inches at the top, and at least five feet high. Such walls as these will work up a world of stone, and divide the farm into convenient sized lots to some purpose. No ordinary grazing animal will scale them, and they will last a life-time at all events, and perhaps for centuries, according to the soil and climate. Besides the everlasting tax for repairs, the ordinary stone-wall is a perpetual harbor for vermin, which are destructive to the crops, and the nucleus for a nameless catalogue of noxious weeds and bushes, which every few years require the extirpating hand of the occupant. This of itself is no small tax, and when to these objections is added the loss of the land they occupy, where land is really worth anything, it becomes a serious matter.

Did it ever occur to the New England husbandman, in the stony regions, that his farm, be it good or bad, if he wants to sell it, in more than an average of cases, with all its improvements, will not bring him what the stone-walls and buildings upon it have cost at ordinary labor prices? Yet such, I venture to say, is the fact. Many, no doubt, will question it. Very well. Then make the calculation as the facts exist, and see for yourselves. The statement will not vary much from the truth. It may be asked what is the remedy? How are the various qualities and descriptions of our lands to be divided into "the usual proportions of plowland, meadow, and pasture," as our farms on sale are usually described? This is, to be sure, a pithy, and rather pregnant question as a *general* one, and is only to be answered in a general way; that where draining and good cultivation are practised sufficiently, large tracts can be brought into one enclosure and render small subdivisions needless. These, however, are to be accommodated to the size of the estate, and must depend on circumstances. Sheep-farms require less fencing than almost any other, as a broad range is more healthy for them, and a great promoter of a good growth of fleece. Yet the price of land has so much to do with the subject, that the cultivator as proprietor must judge for himself, having in view constantly the main principles of security, durability, and economy.

When stone is wanting, rail and board fencing is also carried in many instances, to excess although the incentives to it are not so great as on stony soils—not in *quality*, but in *quantity*. The same objections exist to them in a degree that prevail with stone fences, save that of harboring vermin. The cheapest fence of all others, in a timber country, is the common worm, or Virginia rail enclosure, seven to nine, or ten rails high, as may be required, with a lock of two rails at each corner.

This is equally effective in holding the fence to its place as stakes; easier made, and more durable, as the stakes require re-setting by decay at the foot every five or six years. This worm-fence can be made from thirty to fifty cents a rod when timber is of little value, and will last from thirty to fifty years, according to the material of which it is composed. For this purpose, all the different kinds of oak, hickory, bass-wood, or linden, elm, white and black ash, or in fact, any other wood that will split, answers a good purpose. It is true this fence takes up some room; but its cheapness and durability amply compensate for that loss. It is not the handsomest fence in the world; but no matter—if properly laid, it looks well. Its utility is equal to any, except a good stone-wall, and that is the main chance for the farmer. Post and rail, and post and board fences are valuable, according to their cost and the worth of the land they enclose, and are more ornamental in appearance, and economical in the use of land than any other. With locust, or red cedar posts, at cheap rates, this fence exceeds any other; even better than hedges, which, I take, are hardly a practicable method in this country, where boundaries and subdivisions change so often, to say nothing of the ill success that has attended the efforts to cultivate them. Even in England, it is now seriously questioned whether the thorn-hedge is not greatly too abundant; an eminent agriculturist, in a recent essay, estimating that they occupy, in many districts, one-fifth of the soil!

But I must bring these remarks to a close. My object is to induce our farmers to reflect on a most important subject of their care. We need *better* fences, and in general *fewer* of them.

L. F. ALLEN.

Black Rock, N. Y. July, 1847.

AGRICULTURAL SURVEY OF WASHINGTON COUNTY.

DEAR SIR:—You have been selected to make an Agricultural Survey of the county of Washington—to collect accurate information in relation to the state of its agriculture, and every subject connected with it; to suggest means of improvement; and to make report with as much exactness as circumstances will admit.

I enclose you a plan of the proposed Survey, adopted by the Executive Committee of the N. Y. State Agricultural Society, which will direct your attention to such inquiries as are deemed most important. Your own experience will guide you in the fullness of examination and report under the various heads, some requiring from their importance much more extended notice than others.

The reports on Natural History, which have been prepared under the direction of the Legislature, will aid you materially in some branches of the survey, as many of the inquiries submitted can be answered probably through them, and without as minute personal examination as would otherwise have been necessary.

As this is the first Agricultural Survey which has been undertaken by the State Agricultural Society, and upon its successful result will depend whether the survey be continued in future years to other counties or not, it becomes of the highest im-

portance that the work should be done with such particularity and care, as will secure a complete and finished return. It is desirable that the survey, when completed, should be embraced in an octavo volume of some 200 pages—but this will depend in some measure upon the extent to which it may be lengthened by subjects of importance which may require particular notice.

The Executive Committee rely upon your ability to perform the work in a manner that will be creditable to the society, and so as to be an enduring monument to yourself in the future history of the Agriculture of the State.

B. P. JOHNSON,

Secretary N. Y. State Ag. Society.

To ASA FITCH, M.D.

Albany, May 12th, 1847.

PROPOSED PLAN OF THE SURVEY.

1. Geographical and topographical description of the county.

2. Geological features, minerals and fossils, nature of the soil, distinguishing that composed of the "northern drifts," or of transported materials, from that produced from the rocks of the immediate neighborhood.

3. Length of time the soil has been under cultivation; the original growth of timber, and the time it was first cut off.

4. Date of the first settlement of the several parts of the county, and the origin and general character of the settlers.

5. Condition and progress of agriculture from the first settlement to the present time, showing what have been the improvements and causes which have produced them; what have been the staple crops, the mode of their cultivation, and as far as may be practicable, the actual profits of each, at different periods.

6. Present state of agriculture; the several crops cultivated, their respective yields and market value. Also, all industrial pursuits connected with farming, such as the manufacture of maple-sugar, how managed in its preparation, &c.

7. Adaptation of crops, as grains, grasses, and roots, to different soils; showing the arrangement which in this respect has been found by experience to be most judicious and profitable.

8. Fruits and fruit-trees; having particular reference to the adaptation of the various species to the different soils (mentioned under head No. 2), and how far the productiveness, health, or longevity of the trees is affected by the nature of the soil, &c.

9. Weeds and pernicious plants, describing those most injurious, whether indigenous or introduced, and giving the most approved modes for their eradication.

10. Insects, describing those which are prejudicial to the farmer, and noticing the most effectual means of preventing their ravages.

11. Implements, having regard to any peculiarity of construction, and noticing any improvements which may have been adopted in their form, mode of manufacture, or uses.

12. Live stock (horses, cattle, sheep, and swine); showing the numbers of each of these classes kept in the county, their diseases, and mode of curing them; the different breeds, and, as far as may be, the relative value of each for different purposes; the

relative value of horses and oxen for labor on the farm; and any facts in regard to the profits and most economical management of poultry of different kinds.

13. Feeding and fattening animals; having regard to the most profitable modes, and the relative value of different kinds of grain, roots, apples, pumpkins, grasses (both in their green and dry state), or any plants for feeding laboring animals (whether horses or oxen), milch-cows, or for fattening cattle, swine, or sheep.

14. Dairies and dairy produce; showing the quantity of butter and cheese produced, the quantity per cow, the best modes of making these articles, and the kind of pasture and food, as well as the general management, which is found most profitable.

15. Wool-growing; showing the number of sheep in the county, the breeds, the quantity of wool produced per head, the value per pound of the different kinds of wool, its preparation for sale, and where sold; the number of sheep pastured per acre, on different soils; time required for winter-feeding; quantity of hay required for carrying a given number of sheep through the winter; most economical mode of winter-feeding, whether with hay alone, or with any other fodder, and whether any, and what kinds of grain or roots, and in what quantities, and in what manner, are fed to sheep.

16. Manufactures; the kinds carried on in the county, their extent, and the effect they have had on the farming interest.

17. Examples of good management or success in farming.

18. General profits of farming; showing the returns for capital invested.

19. Education; the state of schools, and whether any instruction, having a particular reference to agriculture, is given in schools and academies, and with what success or advantage.

20. Suggestions for improving the condition of Agriculture.

21. Zoology of the county—at least a notice of those indigenous quadrupeds, birds, reptiles, fish, &c., that are serviceable or detrimental to man.

FARM OF MR. BELL.

The farm occupied by Mr. Thomas Bell is situated in Morrisania, near this city, and comprises about 400 acres, being a part of the domain of William H. Morris, Esq. The present season 100 acres have been cropped with hay, 40 acres with Indian corn, 18 acres with wheat, 12 acres with oats, 6 acres with rye, 5 acres with turnips, 3 acres with potatoes, and 10 acres with corn, sown broadcast, or in drills, for soiling; the remainder lying in pasture or fallow. There are also on the place 25 acres of orchard, principally Newtown pippin trees, from which were sold last year 400 barrels of apples and 200 barrels of cider.

The stock of the farm consists of 75 cows, 52 of which give milk, two Durham bulls, 25 heifers, 6 working oxen, 6 horses for labor, 12 sheep of Bakewell or Leicester grade, and 50 or 60 hogs and pigs.

On the 16th of July last, the field crops all looked well, which was doubtless owing, in a great measure, to superior management. The wheat was in the act of harvesting, and bid fair to yield 25 or 30 bushels to the acre. It was grown on land that had remained in fallow for many years; that is, a

scanty pasture, interspersed with alders, dwarf cedars, wild grasses, &c. The ground was plowed twice in the summer of 1846, and previous to sowing, 25 loads of compost, made of swale or pond mud, mixed and fermented in the heap with barnyard manure, were applied to each acre. The field, in which this wheat was grown, at present is in excellent condition for laying down to grass, or for the cultivation of almost any kind of crop.

The fields of Indian corn, in general, looked vigorous, dark-colored, and were just in tassel, although the land varied in character, and had been differently tilled. We were particularly struck with the vigor of one field of eight acres, to which had been applied broadcast, 400 loads, of 50 bushels each, of swale muck, mixed with 500 bushels of oyster-shell lime. Another field of six acres, which previously had been cropped with grain, was manured with coal-ashes, a pint to a hill, and looked well.

Mr. Bell practises the system of soiling in part, particularly with his milch-cows, and highly approves of the plan. He sells, upon an average, in this city, 500 quarts of milk per day, which amounts to more than \$7000 a year. From the milk of one cow alone, he realized \$530 in two years, notwithstanding she had a calf within the time, but was never dry.

Mr. Bell's bull is a thorough-bred Short-horn, imported from the celebrated herd of the late Earl Spencer. He is a superb animal, and has taken several prizes, as the first in his class, at the exhibitions of the New York State Agricultural Society and the American Institute.

Several of his cows are also thorough-bred Short-Horns; but most of his herd consists of high grades, a cross of his bull, Marius, with some of our best native stock. Of this cross, we observed 15 beautiful yearling heifers, of great promise, which were so docile that they could be approached and handled by any one who chose. This gentleness Mr. Bell attributes to the early attachment they acquired by bringing them up by hand when calves. The first three days following their birth they were allowed to suckle the cow, after which they were fed a few weeks on skim-milk, and then turned out to grass. This kind of treatment, no doubt, has a tendency to soften their dispositions, and greatly contributes to their gentleness when they come to be cows.

While looking at the herd, it was remarked by Mr. Bell, that every cow, without exception, which had broad *escutcheons*, or *quirts*, formed by the meeting of the hair that points in different directions on the posterior parts of the animal, *wide apart*, were good milkers; but this proves nothing further than it goes, as his premium cow, Shaker, the best in the herd, has but a trifling development of this point, being the one from which he realized \$530 in two years by the sale of her milk.

Mr. Bell is evidently a thorough-bred farmer, which is manifest from the characteristic neatness and excellent management of every part of his farm. He superintends in person, and puts on record most of the operations of the dairy, the farm-yard, and of the field, and is up and doing from early dawn to late at night. He keeps an account of his receipts and expenditures, which, at the end of the year, it is highly desirable he should make known to the public.

LETTERS FROM THE SOUTH.—No. 10.

FROM Plaquimine, where I again resumed my northern course to Baton Rouge, the formation of the banks, and the cultivation and general improvements, are similar to what is exhibited on the river below. There are the same substantial sugar-houses with their elevated chimneys; the generally tasteful cottage residence of the proprietor embowered in shrubbery, and the hamlet-like cluster of tenements for the laborers, with their stables, sheds, workshops, and other outbuildings, all of which are usually painted or whitewashed.

Though the number of shade-trees is less than is consistent either with taste or profit, yet they are sufficiently conspicuous to contribute greatly to the beauty of the prospect. The pecan is the most imposing and graceful, after the live oak, which is seldom a leading feature of the plantations on the Mississippi. This tree grows much like the largest of the sugar-maples of the north, but somewhat taller. The limbs commence about 15 feet from the ground, and extend to a nearly uniform distance outwardly from its upright trunk, presenting a dense, cylindrical mass of rich foliage, 50 feet in diameter by 80 to 90 feet in height. It is found in great abundance throughout most of the lower delta, and yields a nut resembling an oblong acorn, though of a larger size, with a thin shell and a flavor much like the shag-bark walnuts of the north, but less rich and oily. The pecan also abounds in Texas and Mexico, and though usually of smaller size, is said to bear a larger fruit. The pride-of-China, with its low but handsomely rounded top, having a profusion of lilac-shaped and colored blossoms whose odor they much resemble, with delicate, but rather thin foliage, is a favorite shade-tree throughout lower Louisiana. It is said to be liable to no diseases, grows rapidly, and harbors no insects; but in its general appearance it is far behind many of the native trees of this region. The sycamore, weeping willow, the *Morus multicaulis*, and some other trees, are not uncommon among the ornamental trees of the country, and add a pleasant variety to the scenery of this cultivated region. Where it grows on the river banks or in the open land, the cypress is a beautiful tree.

Baton Rouge is pleasantly situated on the left bank of the river, on the first high land above the Gulf, a distance by the course of the stream of 250 miles. It is the capital of the State, and contains the United States Arsenal, and some good schools. Port Hudson, 24 miles, and Bayou Sara, 34 miles above, are small depôts for the products and supplies of the rich and highly cultivated parishes of East and West Feliciana, on the east bank of the river. Fort Adams, on the same side, 250 miles above New Orleans, and about 18 above the lower outlet of Red River, at the mouth of Buffalo River, is the only other landing of consequence below Natchez. The last occupies the plain of a high bluff, not visible from the river, and is said to be handsomely laid out and well built, and contains about 6,000 inhabitants. It was settled about 1700. It is one of the oldest towns in the State, and is surrounded by a wealthy and intelligent agricultural population. Nowhere in the south has the cultivation of cotton been more successful than here. The brief stoppage of the boat allowed us to see

only that portion of it which formerly attained an unenviable notoriety among the flood-wood bipeds visiting it, under the cognomen of "Natchy under the hill." This has, however, been principally rebuilt within a few years, and is now rid of the disorderly populace that once predominated there.

Rodney and Grand Gulf above, are thriving villages, and the depôts for a rich back country, which is unsurpassed for the high state of cultivation of the cotton plant. It is this region that has brought the pure Mexican seed to the enviable reputation it enjoys under the name of *Gulf seed*. The imported seed is said to yield a small crop, but if carefully cultivated, and the imperfect seed thrown out, it produces much more abundantly in the subsequent crops, and of a better staple than any other seed excepting the sea island.

Vicksburg, 410 miles above New Orleans, is built on a precipice of the river. It is regularly laid out, and contains numerous brick stores and houses, rising in successive parallel streets above each other, till they surmount the highest point and stretch eastward on the undulating surface beyond. Though comparatively new, it is an active business place, and contains about the same population as Natchez. The natural surface is uninviting for a city, consisting of innumerable small conical hills, thrown together in the most irregular disjointed manner imaginable. Perpendicular excavations of 30 and even 50 feet are sometimes necessary to prepare the foundations for many of the buildings and secure a proper grade for the streets. The resolution manifested in encountering so rugged a spot, gives earnest of an enterprise on the part of its citizens, that is not likely to be damped in its career of improvement by slight obstacles.

A railroad extends from this place, 50 miles to Jackson, the capital, and will soon be completed 20 miles beyond. It has been built at great expense, through elevated hills and across deep ravines, and is substantially ironed with heavy rails, over which the cars pass at the rate of 20 miles an hour. I was much struck with the peculiar adhesiveness of the artificial banks about Vicksburg and along the route of the road. They are seldom excavated at an angle with a vertical line exceeding 10°, and I have seen them 30 feet high, within 10 feet of the road, that have maintained their perpendicularity for years, under the jar of the engines and heavy trains. This is the more surprising from the excessive tendency to wash, inherent in most of the uplands in this region, in which it much resembles parts of Virginia and the more Southern Atlantic States. To prevent this, the greatest skill is employed in circling the hills with the plow in such a manner as to keep the furrow perfectly level, and with the abrupt and ever varying acclivities, this necessarily produces a great deal of patchwork in cultivation. Even this excessive caution is often found unsuccessful in resisting the effects of rains, and many fields are already abandoned from the double effect of exhaustion and gullies. So great is this tendency, that an untilled surface with the slightest declivity, is often seen fretted into a perfect honey-comb with the petty gullies wrought upon it in every direction.

The soil on much of the uplands in Mississippi

is thin and readily exhausted by negligent cultivation; yet with careful management, they are good cotton lands, and will generally produce about 30 bushels of corn per acre. The lower and secondary bottom-lands on the Big Black and its numerous petty tributaries, are much more productive, though the former are subject to overflow and are only partially cultivated. Those who have examined it carefully, say that there is no lack of lime in the soil; and that an abundance of shells are found at a depth of 100 feet below the surface. But the fact that this earth when spread upon the soil acts as an efficient manure, would seem to prove that the surface has not a full supply of lime; unless it can be shown that this earth contains the phosphates, potash, or some of the other fertilizers to an appreciable extent. The Muscadine grape, the papaw, the magnolia, and several varieties of the Chickasaw plum abound in this part of the State.

Our destination was the plantation of Dr. Philips, seven miles from the dépôt, which we reached on horseback through a well timbered country of undulating surface. We found the Doctor among his crops of corn and cotton, which were looking finely under his judicious management. Those on the uplands, though not as luxuriant as on his lower fields, give promise of a liberal yield. He thinks these fields have been improved at least 20 per cent, under his rigid system of rotation and plowing in the stalks and other vegetable matters grown upon the soil. He alternates corn with cotton, and occasionally oats and rye. These are generally fed off on the ground.

The southern rye, which is generally used south of Virginia, tillers much more abundantly than the northern, a single grain sending up a large mass of shoots, which yield a luxuriant pasture through the winter, and ripens some 15 or 20 bushels per acre fit for the sickle early in June. The only oats that fill out a plump berry in this region, is the Egyptian. In the delta further south, many planters assure me that their oat-crop is generally a failure, producing nothing but light straw; while those who have raised the pure Egyptian, say that they have never failed in securing a well developed grain. This is an important item for such planters as have to resort to the flat-boats of the upper Mississippi for their supply of horse-feed. But Dr. P. much prefers the rye to the Egyptian oat as green food for stock, thinking the latter hardly worth attention for this purpose.

His main dependence for animal feed, like that of most planters throughout the South, is on the corn-crop; and with this he invariably sows the cow-pea, after the corn has been sufficiently worked. It grows slowly under the shade of the corn; but when this has ripened, the pea shoots up with great luxuriance, and covers the whole surface of ground and stalks. The corn and a portion of the blades and peas are gathered by hand, when the stock is put upon the field for a while to gather what they choose, and the remainder of the entire vegetable growth is carefully turned under. This is the system pursued by the best planters, so far as I have witnessed, throughout the entire South, wherever soils require renovation.

Dr. P. says that red clover, if sown in the fall, will mature a large crop the following spring; but

as it is in the way of early planted crops, its cultivation has not been introduced to any extent. He showed me specimens of the Gama and Guinea grasses, both of which were flourishing in great luxuriance. The former is a coarse reedy grass, with a tough, harsh leaf; but he assures me that cattle and horses feed upon it with great avidity, and will, if permitted, eat it so closely into the ground, as to cause its speedy destruction. The Guinea grass is equally luxuriant, and in addition to its numerous tender and succulent leaves, it throws up flowering stalks, which Dr. P. says do not mature their seed. Its roots are tuberous, large, and prolific, and are much relished by sheep and swine. This appears to be identical with that shown me last fall, by Dr. Bachman, of Charleston, who commends it as a stock-sustaining plant beyond any other grown in the South.

There is a species of yellow-flowering clover, that is sometimes abundant and prolific. Dr. P. had selected for me specimens of this, two feet in length, which, he says, is only of medium size. This is a plant highly relished by sheep, but cattle are not partial to it—at least this is the experience in Europe. The Bermuda and crab-grasses flourish here whenever there is a full exposure to the sun. Both are valuable grasses, and make excellent hay, though some give a decided preference to the first as being most nutritious.

But what is most peculiar on this plantation are the large orchards of peach, apple, and pear-trees which seemed in the highest vigor and health. Dr. P. has been indefatigable in collecting a great variety of the choicest kinds of fruit, which are already making large returns for the attention and care bestowed upon them. He adopts the system of permitting the tops to branch as low down and as profusely as nature dictates, thereby securing a more effectual shade to the soil under the fierce blaze of a southern sun; and he is satisfied that this practice is the best he can adopt for the latitude. It is a question whether thinning the upper branches, and especially of the apples, may not be attended with benefit.

One of the prettiest hedges I have yet seen in the south, is the *wild-peach*, which partially surrounds the lawn. This is found in great abundance in the neighboring forest. When placed within 2 or 3 feet of each other in a hedge-row and closely trimmed, it gives a strong stalk of 3 to 5 inches in diameter, which is closely set with a perfect network of stiff branches.

I could not but admire the taste which has placed the domicile in a natural bower of forest shade-trees. The sloping grounds on either side prevent the accumulation of stagnant water, while the heat of the climate effectually prevents any injurious effects from dampness. The birds are encouraged to nestle among the branches and rear their young, and we could count a dozen nests of the mocking-bird, oriole, nonpareil, turtle-dove, &c., from the balcony.

The cotton plant is late this season, owing to the long continued cold weather. It has however a healthy appearance, and there is every reason to anticipate a fair yield. The particulars of its cultivation have been so often given in the *Agriculturist*, that it would be superfluous to repeat them.

“Will the caterpillar appear again this season

and what are the causes and remedies," are questions often and eagerly agitated by the planters. That the cotton caterpillar, like nearly every insect which at times brings such widespread devastation on such plants, fruits, or trees, as are the peculiar objects of its attack, is indigenous to the country, and has always existed with the crop to a greater or less extent, is now generally conceded by intelligent observers. Long cultivation of the same plant on the same fields, an unprecedented continuation of hot, moist weather, and perhaps an unusual absence of the feathered tribe, or a superabundance of other and more tempting food, and other causes, may have combined to develop the insect last season to an extent never before known; and though we may look for their continuance hereafter much beyond their numbers generally observed heretofore, yet we have every reason to conclude from analogy or experience, that with a close attention to their habits and characteristics, and an intelligent and rigid system of culture designed to counteract their baneful effects, their ravages hereafter may be confined within comparatively narrow limits.

Selection of the best, most vigorous, and hardy seed; a fine state of pulverization and good condition of the soil, by which its rapid growth is secured; thorough cultivation; encouraging the birds to visit the fields, are all means which should not be overlooked. A hardy, thrifty plant, may resist an attack that would be fatal under other circumstances. Dr. P. adopts the system of thin sowing, using but 2 to 4 pecks of seed to the acre, instead of 3 to 5 bushels as is sometimes done. By this he secures a more rapid and natural (not an artificial hot-bed) growth, and the plant is thus more capable of resisting disease or attack of any kind. One gentleman in Mississippi informed me that by the improved cultivation he secured from the use of the subsoil plow, he averaged 4 bales to the hand, while his neighbors obtained only 1½ bales. Other causes might have contributed to this difference, but neither he nor they could detect any, except in the use of this implement. That birds should be able to extirpate the army of worms as they appeared last year is not to be supposed; but they might perhaps, in a single day of the preceding season, have destroyed every ancestor of this horde.

It was with much regret that from a want of time I was compelled to forego, for the present, my own inclinations and numerous urgent invitations to visit other sections of this highly favored agricultural State.

R. L. ALLEN.

Vicksburg, Miss., June 2d, 1847.

TETHERING STOCK.

For several years I have had the tether in successful operation, and consider that its value is equal, if not superior, to many cross fences. As early in the spring as the grass will afford a good bite, the animals are taken to the most desirable places, where they are safely confined, and if the grass is sufficiently abundant, once a day is often enough to remove them; but if necessary, they may be removed oftener. As soon in the fall as the corn is sufficiently matured, I commence cutting and shocking as much as will serve the tethered stock for two or three days, and so continue to cut and shock, or if preferable, cart it to the crib.

The advantages of this mode are very great, as the horses can luxuriate on the finest and the most nutritious crab-grass, which, if not otherwise consumed, would be destroyed by the frost, and which, in our cold, stiff lands, it is needless to turn under for manure without lime, or some other application to hasten its decay. I consider this grass an injury rather than a benefit when turned under in a dry state, as it serves as a nest for vermin, or worms, instead of manure. I find another great advantage resulting from this mode of feeding, is, that the stock nearly clear the field, which saves the almost endless task of weeding up the grass and vines before we begin to plow for putting in our grain, thereby enabling us to sow a month earlier at least.

My experience has shown me that a chain, or rope, does not answer so well for a tether as two light poles; for at times, the animal is liable to get it entangled around the hind fetlock, and sometimes badly injures himself in that way. My mode of making a tether, is, to take two poles, say from two to two and a half inches in diameter, one twelve and the other about eight feet in length, which I couple together by means of a swivel. Through each of the extreme ends of the poles a hole is bored, and an open ring inserted in such a manner as will not allow them to become unloosed. The ring attached to the end of the longest pole serves to confine the animal to a stake, or pin, driven into the ground, and the one at the end of the short pole admits a halter, rope, or chain, about three and a half feet long, for confining the animal by the neck or horns. If the halter or chain be longer than three and a half feet the horse is liable to get it around his hind legs and injure himself—if it be short, this is impossible. In a day or two, the animal will learn to move the poles around the circle by pushing them with his nose, and if he get it between his legs he will soon learn to step over them and clear himself from harm; but should his jaws or nose become chafed, this may be prevented by putting a wide strap of soft leather over them.

J. B. MARSH.

Beaufort, N. C., June, 1847.

LONG ISLAND FARMING.

SUPPOSING that it will be interesting to many of your readers to know what kind of farmers we are, and what system we pursue on Long Island, I will give you a description of some of our best managed farms, and the manner of cultivating them. I shall commence with Lloyd's Neck, as that has long been celebrated for good land, and equally good farming. It contains about 3000 acres, and is entirely detached from the main land, except by a narrow strip of sand-beach, which is sometimes covered at very high tides. It has Cold Spring Bay on the west, the Sound on the north, Huntington Bay on the east, and Lloyd's Harbor on the south, which divides it from the main island. It is rolling and undulating, and in some places hilly, and is from 30 to 100 feet higher than the Sound. The scenery about the Neck at this season of the year is beautiful. Its geographical position gives it some splendid water prospects, particularly from the high bluffs at the west end of the Neck, at the north and northeast. We there see the bold and rugged hills

of Connecticut, in full view, dotted with villages and farm houses, and almost at our feet, we have the Sound with its bright waves sparkling in the sun-beams, and whitened by sails of the innumerable craft that plow its waters. Casting the eye to the southward, over Centre Island, we see the pleasant village of Syosset (formerly Oyster Bay), with its white houses, peering out amidst green trees and verdant fields, contrasting beautifully with the high and densely-wooded hills, which rise directly behind it. Turning the eye still more to the south we see Cold Spring Bay, a beautiful sheet of water, and catch a glimpse of a little village, bearing the same name, lying snugly ensconced among the green hills by which it is surrounded.

Lloyd's Neck is divided into four farms, the soil of which varies from a strong loam to a bright sand. It is heaviest at the west end of the Neck, and as you proceed to the eastward it becomes lighter; but the principal portion of that cultivated, is a rich, dark, sandy loam, with far less gravel in it than any land on the main island. The soil is naturally rich and fertile, which is evident from the rapid growth of timber it contains. It is estimated that a thousand cords of wood have been sold a year from it since the revolutionary war, when it was entirely stripped of its trees by the British army. The amount of woodland does not exceed 4,890 acres. The most westerly farm is the largest, and is generally thought to be the best. It contains about 1,200 acres, 500 of which are under cultivation. It was very highly improved under the excellent management of its late owner, J. N. Lloyd, Esq., since whose death it has been cultivated by Mr. Brewster Conklin. The rotation of crops pursued by him, is the same as that practised on Long Island generally, which may be described as follows:—

1. *Indian Corn*.—This is generally raised by plowing up sod-land in the spring, harrowing down smoothly, and then checking it off into hills four feet apart by means of a heavy sled, drawn by two horses. The manure is fine, well rotted, and is put into the hills. As soon as the corn is up, so that the rows can be well seen, the plows are started, throwing the dirt from the corn, and running as deep as they can be made to go with a good strong horse. The plowings are repeated three or four times previous to the commencement of hay-time, throwing the earth at each time towards the corn. The number of acres cultivated per annum varies from fifty-five to sixty, each of which yields fifty or sixty bushels. The stalks are usually topped and the corn husked from the hills.

2. *Oats*.—These are sowed without any manure and yield about thirty-five to forty bushels per acre.

3. *Wheat*.—As soon as the oat-crop is taken off, the land is plowed, carefully turning under the stubble, and manured at the rate of twenty or thirty loads to the acre. Barn-yard manure is applied as far as it will go, and the deficit is made up by stable-manure from the city of New York. Leached ashes are sometimes used; but when applied too often they cease to benefit the land as they formerly did. (a) Timothy-seed is sown with the wheat in the fall, and clover in the spring. The average yield of the wheat is about twenty bushels to the acre.

4. *Grass and Hay*.—The land is kept in Timothy

and clover, being mowed or pastured three or four years, and then planted again with Indian corn.

The cattle and sheep on this, as well as on the other farms of the Neck, are only common breeds of the country, but they are kept in fine condition, with good pasture in summer, and ample food and shelter in winter.

The next farm east, is not quite so large, and the soil is rather more light. It has been rented and cultivated about thirty years, by Mr. Conklin Gould, having been much improved under his management. His system of cultivation is nearly the same as that of Mr. Conklin; but his grain-crops are not quite so heavy.

The next farm in order, towards the east, is much smaller, containing about 200 acres, a little more than half of which is under cultivation, belongs to Dr. A. H. Stevens, of New York, and is cultivated by Mr. James Velson. The soil is similar in quality to the eastern part of Mr. Gould's farm, to which it joins. The system of cropping is the same as that of the other two farms. It has been highly improved by the purchase of large quantities of ashes and stable-manure, and probably yields fully equal to either of the others.

The easternmost farm of all is owned and cultivated by Mr. Samuel Denton, and contains 800 acres, about 200 of which, are under cultivation. Its soil is lighter than that of the other farms, and was formerly considered very poor; but, from the free use of ashes and New York stable-manure, with the good management of Mr. Denton, it has been rendered quite productive, though not equal to the other farms.

To each of the above farms there is attached a quantity of salt-marsh, from which considerable quantities of salt hay and sedge are annually mowed, that answer the double purpose of salt and food for the stock. Some sea-weed is also obtained from the shores, which makes excellent litter for the cattle and hogs, and helps to swell the manure-heap.

Mr. Gould keeps a seine and catches a considerable quantity of fish, which make most excellent manure. They are frequently applied by plowing in, to the growing corn; and no finer turnips can be raised than by plowing under in the month of June, a coat of fish just from the water, and letting them lie and decompose until the time of sowing the seed. Many farmers, who use fish for manure, think they have a tendency to produce sorrel; but of this I am not certain.

Lloyd's Neck has long been considered as the place of model farming, and to approve and practise the farming of "Lloyd's Neck" has long been considered as good authority enough for pursuing any system or the treatment of any crop; but some of our neighbors of the Neck are disputing the palm with them, and deservedly so, if they have not so good a soil. In another communication I intend to say something on this point.

G. P. LEWIS.

Huntington, June 29th, 1847.

(a) Our readers will bear in mind that quick-lime or wood-ashes constantly applied to land will deprive it of its humus or vegetable matter and render it unproductive, unless it be annually supplied with muck, barn-yard, or street manure.

A SHEEP-BARN.

Description of a Sheep-Barn by Joshua B. Chapin, Providence, R. I.—No. 1. A, represents the main building or store-house—of the following dimensions: length 45 feet, width 34 feet, height to the eaves 16 feet.

The front internal arrangement is shown by supposing this end open.

B, B, are grain-bins for convenience of daily distribution. They are $3\frac{1}{2}$ feet wide, 12 feet long, 3 feet deep in front, and 3 feet 8 inches at the back, with one or more divisions. The bins are placed in lobbies that lead, from either side to the sheep-folds. At the farther end of the main building on the left is a granary (not shown in the drawing) 12 by 15 feet and 8 feet high. Adjoining this may be constructed a wool room of like dimensions; and over these two rooms, as well as over the lobbies, are spaces for depositing the straw of the different grains.

The space at the right, C, C, beyond the lobby, and occupying the entire remainder of that side of the barn, forms a capacious bay for the deposit of clover, hay, &c.

The width of the lobbies, including the bins, is $7\frac{1}{2}$ feet. The width of the main floor is 10 feet. Under this, and descended to by a trap-door, is the cellar, capable of containing 2,500 bushels of roots.

It is intended that the main floor be used for the operations of cutting or otherwise preparing the food, shearing, &c. The entrance at each end is the same. The barn will contain from 60 to 80 tons of hay, and 2000 bushels of grain.

On the right and left of the main building are two wings, E, E, which are the sheep-barns. These are 75 feet long (they may be longer or shorter according to the number of sheep desired to feed), 25 feet wide, and 6 feet high at the eaves, and will amply accommodate 400 or 500 sheep.

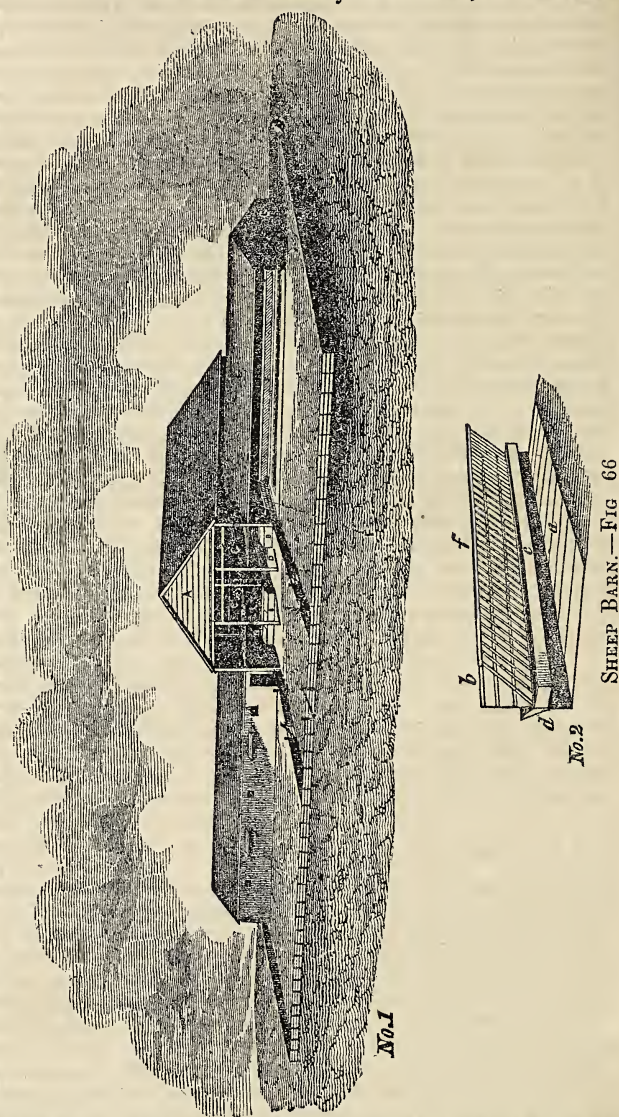
F, F, are the racks, which pass all around the folds, with the exception of an entrance at either ends; the one for the ingress and egress of the sheep to the yards, the others for the convenience of the shepherd. Between the racks and the outer walls of the fold is a passage-way, of $2\frac{1}{2}$ feet in width, passing all around, the floor of which extends under the racks, and four feet beyond them, into the fold proper. This is designed for the sheep to stand upon while feeding—by this plan they eat better and waste less. The platform is elevated about 8 inches above the ground—(represented in the drawing by the shaded part.

The windows, hinged shutters, and doors, are sufficiently well shown in the drawing. The shutters should be kept open, except during storms, and severe cold weather. No animal suffers

sooner or more seriously from imperfect ventilation than the sheep. Allowing a fold on either side of the main barn, admits of a division of the flock, which is of much consequence.

The disposition of the yards is also shown by the drawing. Racks and open sheds may be arranged around these if desirable.

A small house may be attached, and a division



SHEEP BARN.—FIG 66

yard made at the outward end of either fold, say at G, for diseased sheep. At H, is a pump.

No. 2 is an enlarged view of the rack, f, &c.; a is the platform spoken of above, b is the back of the rack, c the feeding trough in front, d the feeding hopper to the trough.—*Morrell's Am. Shepherd.*

PLANTS with small leaves derive most of their nourishment through their roots, while those with many large leaves receive a considerable proportion of their food from the atmosphere.

SHOW AT SARATOGA.

WE would remind our readers that all those who intend to compete for the premiums at the approaching Fair of the New York State Agricultural Society, to be held at Saratoga Springs, should have their animals and articles on the ground, without fail, on Monday the 13th of September, so that they may be arranged and in readiness for examination by the judges on Tuesday morning.

All members of the Society, or any who may become such at the time of the Fair, by the payment of \$1, will be furnished with badges, which will admit himself, wife, and children under twenty-one years of age during the exhibition. Tickets for a single person 12½ cents. All stock and articles for exhibition will be transported on the railroads free of charge. Fare of visitors, on railroads, half the usual prices. Board at the Springs from 75 cents to \$2 per day.

CHOICE SUMMER-APPLES.

SUMMER-QUEEN.—This is described by Landreth as a distinct variety from the one long known around Philadelphia by the name of Early Queen. It is of full medium size, the outline in some specimens rather longer than broad, the blossom-end occasionally quite pointed. Skin yellow, clouded and striped with red, so much so, in some instances, as to obscure the ground-color. Flesh yellow, rich, and aromatic. Stem long, deeply planted. Ripe in August, but fit for cooking in July. Coxé describes it as an apple of the finest quality, and of uncommonly beautiful appearance. It is certainly a superior dessert-fruit, of a sprightly aroma, and is agreeable to most palates.

WOOLMAN'S HARVEST-APPLE.—This apple, which is sometimes known by the name of *Striped Harvest* is of obscure origin. Landreth says that he has not found it described by any American authority. The size is much below medium, weighing scarcely two ounces. Ground-color, a delicate whitish-yellow, beautifully streaked and pencilled with bright-red of different depths, giving it rather an artificial aspect, as though an artist had colored it to his fancy. Flesh white, crisp and tender, juicy, but not rich. Its early maturity commends it to notice.

EARLY BOUGH-APPLE.—This variety is frequently above medium size. Its outline is rather longer than broad, with a stem rising to the crown of the fruit. Skin smooth, of a pale-yellow hue. Flesh white, with more than ordinary juice, sweet, and well-flavored, though by no means rich. It is of fair quality, and from its early maturity it is generally esteemed.

TO DESTROY MOSS ON FRUIT-TREES.—The fruit-trees in old orchards, especially in situations where they do not grow kindly, are very apt to have the branches and trunks covered with lichens or moss, which does them considerable injury. This moss may be cleared off in several ways; but one of the simplest, and a very effectual one, is, to sprinkle the trees well with dry wood-ashes while they are damp or wet by dew or rain. If this be repeated, in a short time, the trees will be effectually cleared.

Used for dessert in August and September.

EARLY BOUGH-APPLE.—FIG. 67.

Used as dessert in July.

WOOLMAN'S HARVEST.—FIG. 68.

Good for cooking in July—Excellent for dessert in August.

SUMMER QUEEN.—FIG. 69.

REVIEW OF THE APRIL NO. OF THE AGRICULTURIST.

I HOPE my review for March was sufficiently condensed to meet your limited space. I hope to be able to keep this within bounds. But the fact is every number contains so many articles, that it is difficult to pass over them lightly or without any notice. But to proceed—I must first notice one line in the leading article of this April No. on the

Culture of Horse-Radish.—Many of your readers will at first be led to believe that the depth ("2½ feet"), which you direct the roots to be planted, must be a mistake, and that inches instead of feet is meant. But although I have never tried it, I believe you are correct. Other authors direct the same depth. I think there is no mistake. Let it be tried as you direct.

Farm of General Johnson.—"This is said to be the only farm on Long Island remaining in the same family." This I don't understand. Do you mean to say it is the only farm in possession of the family descendants of the original proprietor? [No; but the only one that has not been more or less divided among heirs.] You say "he raises no ordinary field-crops, except for his own consumption." Can ordinary field-crops be cultivated on land that will rent for \$30 per acre? [Perhaps not except on extraordinary occasions. But General Johnson chooses to raise his own family supplies. His desire is not so much to make money as to live easily and comfortably.] If so, then cultivators of the great Western Prairies, should grow rich—particularly as they need no manure.

In describing this farm you should have told your readers what was the nature of the soil. [A light loam with a considerable quantity of loose stone in it.]

It appears strange to me that cultivators of land in the vicinity of New York city should continue to prefer street-manure when so many fertilizing substances could be obtained in a more condensed form. The waste of the glue-manufactories mentioned in another article, for instance.

Lard-Lamps—The best that I have ever used are Arthur's of Philadelphia. He should subscribe to the *Agriculturist* for this puff. I don't like to dispute your correspondent, but I must say that "any kind of lamps will" not "do as well." I wish somebody would construct a table for the *Agriculturist* that would show us at a glance which is the most economical light, at given prices of tallow, lard, oil, and as many other substances as he pleases.

On Manures, No. 3.—Judge Beatty says, corn is sometimes cut up and hauled off of the cultivatable land, and fed upon woodland, &c., where all the manure is lost. He might have said that the wasteful practice was one of the most common ones in Kentucky. And so far as I have observed, similar practices prevail in all the Southwestern States. And nothing but necessity will ever work a change. Such men never read. Five or six agricultural papers have been started in Kentucky, but how could they live in a community where more than half the cultivators pursue practices that tend constantly to waste the soil, instead of improving it. How are you to reach the minds of men who do not read? One great error in all the West and South, is owing to having too much land. And here in the *Let-*

ters from the South, No. 5, is an apt illustration of the "too-much-land" system. For it seems that within a few miles of the city of Augusta, on the navigable Savannah River, some of the most fertile land in the world is lying a waste wilderness of tangled vines. And this land too, was once cultivated; or perhaps more truly the virgin purity of its luxuriant soil was wasted, by some of that numerous class who "take no thought of the morrow." Ah! how peculiarly characteristic of Southern farming are those "numerous herds of cattle and swine" "out to pasture" in those tangled thickets. R. L. A. remarks upon the Southern custom of turning out land to rest, after exhausting its fertility. Probably the land above noticed was "turned out" and got "astray," and has never been "taken up" again. It is most truly to be hoped, that the example of improvement made by Gov. Hammond, and other eminent men, will have an influence throughout all that region.

Sumach.—Are your readers at the North aware that this shrub grows at the South into a tree so large that it is split up into rails? Such in truth is the case to a large extent, on the Yazoo River in Mississippi. I have also seen sumach rails in other places.

The Horse, No. 4.—I cannot pass this article without commending it to the attention of every reader of this paper. If any have passed it by, I would earnestly recommend them, if they have any desire to study the comparative anatomy of this most noble animal, and excellent servant of man, to turn back and read it with careful attention.

The Marl District of Virginia, comprises that portion of the State which lies between the Chesapeake Bay and the falls of the rivers that empty into it.

This paragraph conveys no intelligence to the general reader. How great a portion of the State is included—Indefiniteness is a great fault of many writers.

This article should have given the boundaries of the marl district so that any reader could trace it upon the map, particularly as we are told at the close of it, that not more than one-third of it has yet been cleared of the native forest. I have no doubt of the value of the marl as a fertilizer, and if it would be more valuable in some cases to use quick-lime, it is easily made from the marl. The manner of doing it is, to mould the marl into the form of bricks, and set them in a kiln and burn them in the same way. This writer recommends lime to the farmers of New Jersey and Long Island. Upon a purely sandy soil, it must be used in moderation, or the result will be mortar. But in any soil, to depend upon marl or lime to enrich it, will prove futile, without grass. The Dutch maxim quoted by this writer is the only true one for those to follow who would keep up the fertility of their soil. *Grass is the great thing*. See page 78 of present volume for a valuable editorial article on lime.

The "desire to introduce Northern farmers," will do but little good, unless Virginia farmers themselves will adopt the system of Northern farming. But comparatively few Northern farmers will ever settle in a country that is acknowledgedly so unhealthy that they must "leave their farms some two or three months in a year to the management of an overseer." If they did, they would soon contract

the same do-nothing habits of the present population. The truth is, the present population must themselves put shoulder to the wheel, before calling upon Hercules. Their minds must be enlightened upon the subject of improvements in agriculture.

This can only be done by reading good publications upon this subject. How should they be induced to do it? Who will answer? Several editors of Southern agricultural papers will answer—that they have tried and found the spirit lacking.

Mount Airy Agricultural College.—I do most sincerely hope that this project of Mr. Gowen will succeed. And as we know that he has the means, and is also possessed of a character noted for great energy and perseverance, I believe that he is more likely to succeed than any of his predecessors in the same cause. And if he does, his name will be immortalized among the list of great benefactors of his adopted country. A much better disposition will he make of his wealth, than did Stephen Girard; inasmuch as he proposes to try the experiment while he is here himself to direct and control it. I have not the least doubt but the required number of pupils will be offered at once. The location is one of the most delightful ones in the vicinity of Philadelphia. [It is with deep mortification we inform Reviewer, that this noble offer of Mr. Gowen's has come to naught from mere apathy on the part of the public. Had he proposed some scheme by which Mexicans could be killed by our armies with twice the ease that it is now done, he would have been overrun with applicants in less than one week.]

Letters from the South, No. 6.—This is a valuable number, for the historical sketch of Louisiana, and the statistical tables given. The speculation as to the future advancement of New Orleans, I must notice slightly. And first—"It is the only capital that can ever be established for an extensive region of fertile country immediately surrounding it," &c. If Mr. Allen means by the expression, "immediately surrounding it," the lower part of Louisiana; I answer that that portion of the State will never contain "a dense population," until want of room upon all the vast regions of the West compels the children of generations in a very remote futurity, to reclaim the swamps and lagoons of that part of the State for cultivation. If he means by the term "immediately surrounding" all that vast country that now finds easy access to the New Orleans market, then I beg to know why he says that no other rival can be established. There are those who think that the new capital at Baton Rouge can be made to rival the old capital. And certainly there are several points on the river between New Orleans and Natchez upon which the persevering spirit of Yankee character could, and if they should undertake, would build a rival that would render the present proud city of New Orleans, as comparatively insignificant as is now the "ancient capital of Louisiana" when compared with the present one. Besides, what effect will be produced upon the trade of New Orleans, when the Mississippi River is intersected by three great Eastern Railroads? One from Natchez, through the heart of Mississippi, Alabama, Georgia, South Carolina, and onward to all the great markets of the East. Another, the completion of which is near at hand, will connect St. Louis with Baltimore direct, and only two days

apart. A third will unlock the icy barriers of the North; for within ten years, a car loaded in mid winter at Galena, will be delivered four days after in Boston or New York. And while ice does impede the outlet of the produce of the upper Mississippi and all its great inlets, during winter, and snags and sawyers at all seasons (which our government will not remove), these great roads will be kept open, and the produce of all the contiguous country will find an Eastern market. It only needs Eastern men to see how easily they can cut off a vast amount of the trade of New Orleans, by these roads as they will immediately be built. This they can do, but live at New Orleans they cannot do without risk of life. It is this risk that makes the extravagant prices noticed in the notes to the article under review. And while the same risk continues, similar prices will prevail, which, added to the fact that much of the produce received at New Orleans, finally finds an Eastern market, after a long and dangerous sea-voyage, will enable these great railroads to become very formidable rivals.*

Review of the October No. Reviewed.—I am made to say by a slip of the pen or a miss of the type, that "butter is thoroughly spoiled in warm weather by washing it in cold water." I never meant to say that. And every one who has ever eaten Dutch butter in good old Holland, can never think that cold water will injure butter. The very nature of the article is sufficient to show that cold water cannot injure it.

Mr. Norton's Letters, No. 4.—I little thought when I wrote my review of Letters from the South No. 4, in which I barely alluded to the system of management of the dykes and canals of Holland, that your readers were so soon to be furnished with such an interesting article upon this subject, as they are by this letter of Mr. Norton's. And I repeat, that until just such a perfect system as the *Waterstaat* of Holland, is established upon the lower Mississippi and its branches, vast tracts of the country never can be cultivated. Individual enterprise can do wonders; but neither it, nor the imperfect levée system of Louisiana can ever set bounds to the mighty flood that rolls its torrent into the ocean through the Mississippi. Speaking of the Rhine, Mr. Norton says; "the bottom of this river, is in many places, above the adjacent land," &c. I predict the same result for the Mississippi, if the practice continues to prevail of shutting up all the outlets but the main one. Already has immense labor been spent, which, for want of system, some subsequent improvements have rendered useless. For instance, the extensive levées around Lake Concordia, an old bed of the river opposite Natchez.

A California Farmer.—Now what are all these thousands of oxen, horses, mules, sheep, and hogs worth? It certainly looks like extensive farming, on paper. And yet I suppose there are many of our New York farmers, who could sell out for more cash than this Californian, who counts his cattle by the thousand.

Ladies' Department.—A feather-house, I like very well, as described by E. S. But I like those

* Up to the year 1723, the "ancient capital of Louisiana," was at Biloxi Bay, which is now, merely a little French village of the same name, to be found on the sea-coast of Mississippi.

"farmers' daughters" with their "plain cotton gowns, check aprons, and those neatest, prettiest, whitest little caps," better than all the rest. Won't the man who gets one of them "feather his nest?"

To Cure Herring.—Short, straight-forward, and to the point. Let those who wish a recipe turn back and read again.

Boys' Department.—E. S., says, "a quarter of a pound of rice boiled slowly, will yield more than a pound of solid nutritious food." This is not quite plain enough for the understanding of boys. How, they will ask, can a quarter of a pound of rice, which at first is only "solid food," be made into four quarters by simply boiling it? I will explain—one pint of rice, mixed with three pints of water and brought to the boiling point, in about eight minutes will have absorbed all the water, except what has evaporated—wasted in steam. But still it will not weigh four fold, nor has the water been converted into "nutritious food." But by softening the rice, and mixing it with the water, that which uncooked was a hard dry substance, has become nutritious; though I cannot see how it has increased four fold in its weight, although it will approximate toward it.

Oats.—If oat-meal is "a light, wholesome diet for sick persons," why not for healthy ones? If we should eat more of this food of "poor persons," and horses, should we be so much tormented with dyspepsia? [We should not; and it is not only one of the most healthy articles of food but also one of the most nutritious.]

Value of Hoofs and Horns of Cattle.—What immense quantities of these articles are thrown away entirely, all over the United States. Not only the hoofs and horns, but the entire heads and feet, and tails of all butchered cattle, at the West, are nearly all thrown away. And I have myself seen wagon-loads of hogs' feet and heads thrown into the Ohio River at Cincinnati. And in that region who ever saves bones?

Substitute for Potatoes.—Is it not advisable that premiums should be offered for the best substitute for potatoes? If there is no other cultivated root that can compare with this invaluable vegetable, who is to say that no other can be found? What was the potato before cultivation made it what it now is? The original is supposed to have been a wild growing plant of America; and less than 300 years ago was unknown in Europe. In 1663, the Royal Society of England recommended an extension of its culture, as a means of *preventing famine*. Little thought had they then, that the culture would become so universal; that a failure in the crop would cause the fearful famine that has prevailed during the last year among the millions whose ancestors, only 200 years ago, had never tasted a potato. Only 230 years ago, the steward of the queen's household in London, purchased a very small quantity of "that newe and rare plante, called potatoe," as a kind of rarity for the Queen's table, at "two shilling (45 cents), the pounce."

Concentrated Gravy of Meat.—Can this article be manufactured in this country? I believe it is a fact that sheep have been slaughtered in several places in the United States for their "hides and tallow." Could not the article above noticed, be also made at the same time? And are not cattle

now reared in Texas so cheaply that their meat might advantageously be made into "concentrated gravy? And now speaking of concentration reminds me that it is high time that I should concentrate one-third of the number of letters in the alphabet into the name of

REVIEWER.

RELATIVE MERITS OF THE STRAWBERRY.

PRELIMINARY to a more full exposition of the relative merits of the different varieties of the strawberry, I will now, as some guidance to those who are desirous of forming plantations, name such as the full experience of years has proved, should be *summarily rejected*, and also some that may be permanently adopted for their *certainly of crops*. The great improvements made in the character of this fruit have now rendered it necessary, that very many of the older varieties which have been hitherto held in esteem for want of better, and which, although in most cases possessing good flavor, are miserably unproductive, should give place to those which produce abundant crops, and possess other estimable properties.

As a general rule the English varieties, which have been from time to time so much vaunted are not at all comparable to the new American ones, or even to those found in a natural state in our woods and prairies, and with but few exceptions they are destined to be banished from our gardens; and will no doubt be displaced even in England by the superior varieties which will be sent from America.

Soil.—The soil should be stiff and not sandy, and should be dug and pulverized to the depth of 18 inches; it cannot be made too rich. Old rotten manure should be plentifully intermixed throughout the whole depth.

REJECTED VARIETIES,

all of which are staminate with more or less fertile pistils.

British Queen, Black Musk Hautbois, Corse's Seedling, Downtown, Elton, Melon, Myatt's Eliza, Myatt's Pine, Old Pine, Royal Scarlet, Southborough, all worthless for barrenness.

Swainstone Seedling, worthless for barrenness, and foliage burns up in summer.

Deptford Pine, foliage burns up in summer.

Roseberry, or Aberdeen, small, poor crop.

Keen's Seedling, and Ross' Phoenix, medium size and half crop.

Garnestone Scarlet, fine flavor, poor crop.

Duke of Kent's Scarlet, prolific, insignificant, useless.

Bishop's Orange, the dark-red variety, so called, is erroneous; the true is orange scarlet, very productive and valuable.

Bayne's Extra Early, Common Hautbois (English), Faulkner's Scarlet Pine, Navin's Scarlet, Old Scarlet, Victoria, Belle d'Orleans, Warren's Seedling, Dundee, Lafayette, La Grange, Pine Apple, and Stoddard's Washington are synonymes of others enumerated.

TWENTY ESTIMABLE VARIETIES.

1. Large Early Scarlet, prolific (s)
2. Alice Maude; very large, fair crop, early (s)
3. Primordian; amazingly productive, large, beautiful bright scarlet, the most valuable early variety (p).

4. Abyssinian Prince; large, very dark, productive (P).
5. Black Prince; large, very dark, productive (P).
6. Bishop's Seedling; medium, orange scarlet, very productive (P).
7. Boston Pine; large, fair crop in rich soils (s).
8. Buist's Prize; very large, showy, fair crop (s).
9. Crimson Cone; exceedingly productive, large, beautiful color (P).
10. Crimson Pine; large, fine flavor, very productive (s and P).
11. Eberlein; large, productive (P).
12. Hovey's Seedling; very large, very productive (P).
13. Hudson; large, very productive (s and P).
14. Iowa; orange scarlet, large, productive (s).
15. Lizzie Randolph; same size, and more productive than Hovey's Seedling (P).
16. Necked Pine; scarlet, large remarkably productive, peculiar form (P).
17. Primate; very large, deep scarlet, splendid, very productive (s).
18. Prince Albert; very large, beautiful, fair crop, requires rich soil (s).
19. Taylor's Seedling; long-oval, scarlet, very productive (P).
20. Unique; large, very oblong, light scarlet, excellent, productive (s).

Mr. Burr's five Ohio varieties have fruited with me and promise well; three of them are pistillate varieties.

* * Those with an (s) affixed are *staminate*; and those with a (P) are *pistillate*. WM. R. PRINCE.
Flushing, L. I., July 7th, 1847.

WHEAT EXPERIMENTS.

SOME of the numerous readers of the Agriculturist perhaps, may be entertained in reading a statement of the result of some of the different varieties of wheat that I have under cultivation, testing their different qualities as to hardness and productive qualities. The ground selected for growing them is a gravelly loam, with a little sand intermixed. The plot was selected from a level field prepared for wheat, on the south side of a stone fence, three feet high, with two boards on the top; in all five feet high.

On the 18th of September, I sowed the different varieties in drills, twenty inches apart, running from the fence four rods. The wheat was covered from one to two inches deep, the ground being in good condition to bring it up.

The varieties employed may be briefly described as follows:—

No. 1.—*Wiltshire Bald*, from England two years; not hardy, only a few scattering stools in each drill, with large heads that made their appearance eight days after the common varieties.

No. 2.—*Sandoming Bald*, from Germany three years; about half of the drills near the fence stood well, the other half being about half winter-killed, their heads appearing with common varieties.

No. 3.—*Chatham Bald*, from England two years; one-third of the drills next to the fence stood well, the other two-thirds being somewhat injured by the winter. Heads large and well filled. They made their appearance with the common varieties, but are not hardy.

No. 4.—*Newsboy Bald*, from England. This variety appears nearly the same as the Chatham, but not so much injured by the winter. Bids fair to give a good return.

No. 5.—*Alabama Bald*, two years from Cincinnati, Ohio; one-third of the drills near the fence being somewhat injured by the winter. The remainder of the drills have but a few scattering stools. This variety much resembles the Virginia May Bald, heading at the same time, and in many respects the same.

No. 6.—*Virginia May Bald*, from Virginia ten years. This variety has not become acclimated, nearly one-half having been destroyed by the winter. It heads one week before the common varieties.

No. 7.—*White Provence Bald*, from France eight years. This was somewhat injured by the winter, and heads three days before the common varieties. It has proved valuable for late sowing for several years past, but it has not done so well this season.

No. 8.—*Crate Wheat, Bearded*; cultivated in this section for many years. The drills were the same at one end as the other; stands the climate well. The long stiff beards are objectionable.

No. 9.—*Wheatland Red-Bald*, from the Virginia May; heads with it; nearly one-half winter-killed.

No. 10.—*English Red-Chaff, Bald*. One-half of the drill near the wall stood well, the other half, having but a few scattering stools was winter-killed. It heads the same as the common varieties.

No. 11.—From Oregon last year; a beautiful white berry, very plump, and not one kernel of it vegetated.

No. 12.—*Tuscan Bearded*, from Tuscany ten years. This variety had a few scattering stools in the drills, the winter being too severe for it. One week later than the common varieties; heads large; berry large and white.

No. 13.—*Etruscan*, from the Patent Office; a very few stools were left, the winter being too hard for it.

No. 14.—*Talevara Bald*; from England eight years; more than half winter-killed; heads large, and appeared six days after the common varieties.

No. 15.—*Mummy Wheat, Bald*, from England two years; mostly winter-killed; a few stools that put out large heads, were very late.

No. 16.—*Mediterranean, Bearded*, sown four years; somewhat injured by the winter; straw short with small sharp heads.

No. 17.—*Improved White Flint*. This valuable variety has stood against all the ills affecting the many other varieties. The drills were full from one end to the other, producing a good return. I am confident it is the most valuable of any of the varieties that I have tested.

No. 18.—*Tauland Bald*, three years from England; a few stools with large heads; nine-tenths winter-killed.

No. 19.—*Botany Bay, Bearded*, sown two years. This appears much like the Kentucky White Beard, being hardy; stands very well in the drills. The stiff beards are objectionable.

No. 20.—*Hutchinson or Kentucky White Beard*; the description of No. 19 will answer for this.

No. 21.—*Anguierre Spanish, Bearded*, and im-

ported by Mr. Townsend, of Albany, three years ago. It was somewhat injured by the winter. Straw and heads short, berry large and white. It does not appear to be suitable for this latitude.

No. 22.—One drill of thirty varieties mixed with the Improved White Flint. They were grown together for three years. They now stand well and are more than half of S. P. W. Flint.

No. 23.—One drill of twenty-five new varieties mixed with the S. P. W. Flint. This drill stood somewhat scattering. I wish to see which variety will predominate and whether they will produce a new variety.

No. 24.—*Orange*, from Virginia.

No. 25.—*Blue Stem*, from Virginia.

No. 26.—*White Bald*, from Virginia.

No. 27.—*Virginia Red-Chaff*. These four varieties are two years from Virginia; and were somewhat injured by the winter.

No. 28.—*Zimmerman's Bald Wheat*, from Maryland two years. Straw and head short, and not valuable here.

No. 29.—*Scotch Club, Bald*, from Ohio, much resembling No. 28; both varieties heading five days before the common varieties. On a strong soil they might do well.

R. HARMON, JR.

Wheatland, N. Y., July 1847.

ITALIAN FRUIT-LADDER.

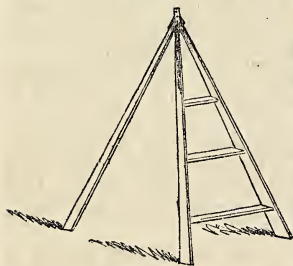


FIG. 70.

A CHEAP and simple ladder may be made after the manner of the annexed cut, which is much used in Italy in gathering fruit. The pointed top-end is pushed up amongst the branches of the trees much more conveniently than a common ladder. The two legs containing the steps are firmly put together and do not require to be spread any farther apart. The other leg is united at the top by means of a swivel or hinge, which admits of its being moved out at the bottom as may be necessary for the situation in which it is to be used.

ARTILLERY VERSUS AGRICULTURE.

In a short excursion made for the first time to West Point a few days since, I was highly gratified with the taste, liberality, and good judgment displayed in all the arrangements provided for the education and comfort of the future soldiers of the country. The site is one of the most beautiful, commanding, and healthful in the Union. A plain of table-land jutting into the Hudson, affords an uninterrupted view of some 15 miles on the most magnificent river in the world, covered with its floating steam and sail craft. Bold elevations hem it in upon the west, on the nearest of which, is old Fort Putnam, and still higher and more remote the remains of two other ancient redoubts, that flanked the first, while the Revolution demanded its occupation and defence. On all sides the mountains go towering up heavenward till the eye is tired of gazing on their misty tops, while around on every

side, the fertile vallies and modest matronly villages seem to rejoice in the protection of the lordly hills.

The Point itself, embracing some 100 acres out of nearly 3,000 which the government owns, is tastefully laid out in groves and open fields, with walks and avenues threading them at proper intervals in all directions. Seven or eight large, solid structures built at great expense, and filled with every thing necessary give aid to the youthful mind, or comfort to his personal wants while in the pursuit of knowledge; and around them are commodious and pleasant abodes for those who minister to their acquirements or necessities. Some thirty professors and their aids stand ready to pour military instruction into minds just opening upon manhood; and \$400 per annum is allowed by government for each of the 250 students there for the purpose of providing liberally for every want. A large band of choice musicians is in attendance to lend enchantment to the scene, and awaken a proper enthusiasm on all occasions. Scientific apparatus, libraries, cannon, powder, balls, swords, epaulets and feathers are all carefully provided for the future heroes. Not a shoe tie is wanting, not a button or thread out of place. All is as punctiliously arranged as a bridal party or a court presentment. And all this is well. It is befitting this age and nation; and if we must have military establishments, and if still we talk of war and especially if we make it, it is entirely proper and consistent that we thoroughly educate a class of officers, capable of leading and rendering more efficient, the coarser materials of an army that is destined to deal destruction on what we term our foes.

The propriety of a similar provision for our naval establishments is equally obvious and equally regarded, by our rulers. They have secured for the nations use whether for offensive or defensive war, a formidable list of seventy-fours, frigates, steamers, &c., magnificently appointed with every improvement of death and devastation, from the terrific Peace-Maker and dreaded Paixhan, which will send their destructive shots several miles distance, down to the light revolving pistol, almost as destructive when near at hand. While we are at peace, about \$8,000,000 annually suffice to sustain these arms of our national honor and defence; but it is computed by some wise heads, that \$50,000,000 per annum will hardly come up to the sum necessary to sustain them while teaching the audacious Mexicans that they cannot dispute our will with impunity. Thus much for *artillery*.

But how fares it in the meantime with agriculture? Agriculture occupies three-fourths of the entire population of the United States, and constitutes an equal proportion of its wealth. Agriculture furnishes bread and meat, vegetables, fruits, horses, cattle, &c., not only for our own nation but for a vast population abroad. Indeed, it is probable that our *gratuitous* agriculture saved as much human life in foreign lands last season as our artillery destroyed, and at an expenditure of one per cent on the cost of the latter; while the total sales abroad of the surplus of the former would about offset the expense of one year's expenditure of our present military establishments. Agriculture too is in its infancy, and needs aid and encouragement, while

war has had its masters and proficients from its first professors, Cain and Nimrod, to the military chieftains of the present day. Gifted minds they have been too, adepts in the art, skilful and apt to teach; and so successful have been their efforts that they have monopolized nearly all the glory of every passing age. Surely then, agriculture, which occupies so many hands, pays so large a portion of the nation's taxes, confers so large benefits, that has been so much neglected, and is yet so weak and puny while artillery is so rampant and strong, surely agriculture must command some distinguished patronage and support from a government self-dubbed "the most enlightened on earth." But softly, gentle readers, you are getting in advance of our national government; the history of the present day records no such policy as this. Turn over the folios of our national statutes, and you will find the record of no such law. Consult the files of Executive State Papers, and since the days of the illustrious Washington, you will hardly find the subject alluded to. Peruse the speeches of our legislative Solons, and you will discover they have wasted no time on this subject. Not one penny of the \$30,000,000 of our national revenue annually collected from the pockets of our farmers, has ever been appropriated to the endowment of an Agricultural College, or the promotion of the agricultural education of our youth during the whole 50 years our present national government has had an existence. Even demagogues and pot-house politicians do not deem it necessary to talk to "Bunkum" in this view; they wisely scorn to consider it even good "gammon." Other subjects are abundant, that will much better repay the expenditure of bad breath and windy nothings; the theme of agriculture and attention to its progress or advancement is not popular enough even with its own millions of self-considered, intelligent delvers, to be deemed worthy a passing thought. How much less then should it receive the munificent appropriations so unhesitatingly accorded to a military academy, or even one ship of war out of a hundred! Yet farmers support the army and navy, nor do they ask their representatives when they return from a session's carousal, what they have done for the interest of agriculture? Continue, most sagacious deputies, to lay on the burdens upon the backs of your sapient constituency—the benefits are reserved for a more discreet generation. JACQUES.

We have hesitated in inserting the preceding home thrusts at our farmers from our melancholy friend. On reflection, however, we think they need some strong provocatives to action for their own interests, and therefore conclude to lay it within their reach.

HOW TO MAKE POTATO-YEAST.—Boil in their skins, three large potatoes; drain off the water, and let them remain in the pot until they have done steaming. Then peel and beat them light, adding a table spoonful of clean brown sugar, as much wheat flour, a teaspoonful of salt, and a teacupfull of good rising; beat this mixture until quite smooth, and then pour in three pints of boiling water; set it in a warm place, and in a short time it will be fit for use, having risen to a fine white froth.

PROFESSOR NORTON'S LETTERS.—No. 6.

A FEW days since I visited the Landbouw Kabinet, in this city, a species of Agricultural Museum, where are collected the implements actually employed in the various provinces of the Netherlands in agricultural operations. Here are a few implements from England and other countries, but far the greater part are Dutch. I took a few notes at the time, and will endeavor to describe some of the things which seemed to me most worthy of attention.

One feature in this museum was certainly very excellent; that is, all of the implements used in any particular branch of husbandry were kept strictly together, so that at one glance I saw everything connected with any subject of peculiar interest. The first two rooms contained only implements engaged in the actual preparation of the land for the reception of the seed, such as plows, cultivators, harrows, rollers, &c. The plows were nearly all of most singular and awkward construction. The Hohen-sheimshe, improved from Germany, was the only one which resembled the best English or American plows. The mold-boards were almost invariably of wood, and sometimes not even covered with sheet-iron. Each province has its own peculiar model; one, I think, that was from Friesland, had the mold-board rounded *outwards*, and very badly rounded too. I am at a loss to conceive how any man in his senses could construct such a machine. The Zealand sand-plow had a broad flange running along the lower edge of the mold-board, intended I suppose to prevent it from going too deep in a light sandy soil. Another Zealand plow had a cast-iron point and mold-board in one piece, fixed in the middle of the beam; directly behind it was another, but set about six inches lower, so as to go in the bottom of the furrow made by the first. For a large improved plow of this description a very handsome premium has lately been obtained. Such an implement might do well in very light soils, but in a stiff one, a very great force would be required to work it. The beam of one plow was raised and depressed by a sort of pulley. There was only one double-mold-board plow intended to throw the furrows all the same way. In this case, the plowman would have to stop at the end of each furrow and go forward to turn the wooden board into its place. There was an interval of an inch or two between the mold-board, and the point. The subsoil-plows were English, also the cultivators. Some machines from Germany to be employed in the potato culture were wonderfully clumsy, being tied together by ropes. Each province has its own shape for a spade; the edges of some being rounded outwards, some inwards, some are pointed and others are half wood, the lower part only being covered with iron. There is a particular kind of spade employed in cutting peat from the bogs. The harrows were very good, though not equal to our best, with the teeth in nearly all of them sloping forward.

The best sowing-machines were English. There was a very good hand-tin, for sowing seeds in drills. The body was like a large inverted tin-canister, with a long spout leading from the lower end, on the extremity of which fitted six or eight little cones, one over the other, having orifices gradually increasing in size so that at last they would pass

beet-seeds, or Indian corn. These were to be removed or added according to the size of the seed.

There were various threshing machines, but I saw nothing which seemed like a new principle. An assortment of flails hanging at one end of the room exceeded anything that I ever saw for clumsiness. Two or three of them were made from one crooked stick. The scythes were nearly as bad, the blades being about three feet long, almost entirely straight, and immensely thick. It must be very difficult to mow with such awkward tools. To my great surprise I discovered among them an American cradle for grain. It is too expeditious a tool for the laborers here, whose object, in too many cases, seems to be to do as little as possible in the course of a day. The slowness and inefficiency of mechanics is a universal source of complaint; but after all they only follow the general spirit of the nation at present. It is to be hoped that the Netherlands may shake off that apathy which has gradually settled down upon everything, and renew the vigor of their former days. The commencement now making in the improvement of their agriculture is one of the most important steps towards such an end. Some agricultural schools have already commenced.

Last week I attended the second annual congress of those interested and engaged in agriculture. It was held at Arnheim, the capital of the province of Guelderland, and continued three days. Several hundred persons were present, and much information was collected. One peculiarity I noticed, as perhaps worthy of adoption in our State meetings. The chairman, soon after the meeting opened, called upon gentlemen from the various provinces to report each, the state and the prospects of the crops in his own district. In this way, and in a few moments, information was obtained from every part of the country upon points most interesting to all of the farming community.

But I have strayed from the agricultural museum. I had however in addition only to notice collections of tools used in transplanting trees, and of all the apparatus used in dairies; this department was interesting, but contained nothing specially new. The hand-tools are almost all extremely awkward when compared with ours, both in shape and finish.

JOHN P. NORTON.

Utrecht, June 9th, 1847.

HOW TO FRY FISH.—A correspondent to one of our exchanges, writing from northern New York, on his way to Ogdensburg, tells how fish should be fried; and we think he is in the right. It seems he breakfasted on trout, at a stopping place called Beekmantown, west of Plattsburgh.

He says the practice there is to put the fish into the fat while the fat is boiling hot; and there should always be fat enough for the fish to float. If the fish is put into cool fat, or what is not boiling hot, it absorbs all the fat and is not fit to eat. If the fish is put into shallow fat it falls to the bottom of the pan and burns, adhering so close that it cannot be taken out without breaking in pieces.

Fried fish should be cooked quick, and trouts, or smelts, cooked well, will have no bones to trouble the muncher.

MANAGEMENT OF HONEY-BEES—No. 12.

THE question now arises, how shall we remove our bees from old to new hives, in order to obviate the difficulty attending breeding in cells too old to answer the greatest degree of prosperity. Mr. Allen's plan (See p. 147, of the current volume), of placing empty hives *under* full ones that require such a change, and then closing the entrances of the full hives, and compelling the bees to descend through apertures in the tops of the empty hives in which the bees construct fresh combs, for a new habitation, appears to be a very reasonable way of surmounting the difficulty in question; yet there are evils connected with this system, that must cause its practice, for any considerable series of years, to prove highly detrimental to that perfect success that I consider attainable in all cases, where bee-pasturage is good or even fair. Every person who has kept bees on the storifying plan, must have noticed, that the bees construct their combs in the houses, in the chambers, without any regard to form or shape; but apparently, having no other object, but that of storing the greatest possible quantity of honey in the space allotted them. The respective size of drone and work-cells, that is, their hexagonal shape, is *never* varied, being in every hive in existence, of precisely the same diameter; but the length of these cells is varied from a quarter of an inch to three inches. These deep cells are entirely unfit for general breeding; hence we find the broad combs, in the permanent domicile of the bees, to be of a uniform thickness, and built at regular distances with the utmost regularity. Now, in all extra room afforded the bees, unless it be of such a nature as to allow them to construct new combs in *continuation* of those already built, they have a tendency to run into *store*-combs. This difference is rather greater in *supering* than in *col-lateral* boxes, or *nadiring*. Mr. Allen's plan is what is termed *nadiring*. When the bees find themselves thus nadired by an empty box, with a hole through the top, say four inches square, more or less, through which they pass down to obtain egress, they look upon this unexpected additional room in the light of a *store-room*, and in their labors here, that natural instinct, that teaches them to construct their permanent works with such astonishing architectural exactness, is much less manifest.

The space allotted in every hive for drone-cells, may in such cases be entirely disregarded, as a superabundance of these cells may be built, should the flowers be very prolific in honey, as for rapid gathering; drone-cells are often built for surplus honey, being more rapidly constructed, and holding more honey in the same area of inches, than ordinary cells. Should there be no drone-cells built below, or more built than usual, or should the combs vary at all from those constructed by bees, on entering a new hive for the first time, the consequences would be fatal sooner or later; hence, I consider this plan as extremely hazardous, and entirely at variance with the laws of nature, governing the honey-bee, and in my opinion, they should never be compelled to occupy any quarters that they have not expressly built as a permanent abode. When this lower box, or hive, is filled and the upper one is removed to some "dark place, or cellar, with a small light in it," for the purpose of

having the bees remove to the lower box, the top of which is now closed, what certainty have we of the safety of the queen? In general, the queen would be in the old hive, or at least she might be there on its removal; and as the queen never goes out of the hive but *once*, and then for a purpose connected with her own fertility, how is she to be transferred to the new habitation? She would not do it voluntarily, as other bees that daily sally forth, and if the new habitation contain no larvæ from which the workers may produce a new sovereign, as before described by me, their ruin is certain. The result of such a state of things would be apparent on the following spring. The bees would have dwindled away greatly in numbers, and no activity would be manifested in sallying out for pollen, as in cases where the bees are prosperous.

There is a new hive going round the country called the "subtended" hive, I think, which has for its main principle, the transferring of bees to new habitations, by a change of drawers; there being three drawers, and every third year, the bees are forced into a new domicil. This is precisely the same principle upon which Mr. Allen acts with his two boxes, and it will sooner or later "blow up bees, hives, honey, and all."

Admitting that the aforesaid plan works well, and that the bees suffer no detriment from the change, it is not the most *profitable* course to pursue in the end, as I shall endeavor to show.

T. B. MINER.

Ravenswood, L. I., Sept., 1847.

AGRICULTURAL IMPLEMENTS.

It would be astonishing beyond measure if we could ascertain with certainty, the amount of loss annually sustained by our farmers in consequence of using worthless or worn-out implements. "I can make out with this," costs many a farmer a large portion of his labor. Any one can save a dollar whenever it is earned, but the important question always is, does it cost more or less than a dollar to do it? In many instances it costs three, five, or ten. I know a plantation in my neighborhood, which *lost* last year, in that single season, in my opinion, from \$1500 to \$2000 by attempting to cultivate with old worthless tools. To counterbalance this loss, they *saved* possibly \$100. I have frequently seen a man at work with a hoe, when, if he had been supplied with a good one, he would have paid for it in the *extra* labor of a single day.

On this subject there are two rules necessary to be laid down and acted upon. *First*, make it a matter of principle always to exercise the best judgment and acquire the best information in the selection of the most approved kinds of implements for each kind of work. *Secondly*, never suffer a tool much worn, or out of repair, to be used. Lay it aside for repair, or what, in many cases, is still better, throw it away as soon as possible.

How important is a *good plow*! I should think a man, with two horses and a good plow, would do as much work in a day as is frequently done in this part of the country in a day and a half with the implements often used, chiefly made in the western country. Not only do poor plows do but little work, but they do it very badly. They never plow *deep* enough, and hence the complaint

of "dry weather." The *weather* would not be so very *dry* if the ground had been *plowed deep* in the spring, instead of being *scratched*.

In this part of the country, most of our agriculture being the cultivation of cotton and corn, we have a good deal of plowing between the rows. Here we use the turning plow a great deal too much and too late in the season. Once plowing between the rows of corn or cotton is enough, if you give the rows a sufficiency of light work, with the cultivator or sweep, afterwards. But never decide against them because they "don't clean the land or work well." The reason is they are not made right, and want throwing away. A good sweep or cultivator does the handsomest and most complete work imaginable, leaving the ground in neat order without tearing up the roots of the corn or cotton, and will go over the ground two and a half times as fast as a turning plow. R. ABBEY.

Near Yazoo City, Miss., July 15th, 1847.

VALUE OF HEN-MANURE.

THE complaint of the fly on turnips and of bugs on cucumber and other similar vines is one of yearly, and sometimes, of longer occurrence. The mischief done by these little pests, is very provoking, and frequently results in losses of labor and good crops, which are very discouraging to cultivators. I have lately been informed by an intelligent and skilful cultivator, that the following preparation affords an ample and complete remedy. Take hen-manure one part, reduce it as well as you can to powder; then with an equal part of plaster of Paris [or guano] incorporate well together, and sprinkle the mixture over the vines or sow them over the drills of your turnips.

Hen-manure is free from the seeds of foul weeds, and in consequence of the great abundance of ammonia it contains, it possesses a great effect in pushing plants forward. Hence, for tomatoes, peppers, and similar plants, in our northern climate, it possesses high value. It is well worth being saved with care by farmers and gardeners for every purpose of cultivation. Care must be used, however, in its application, for if given in too large quantities and placed in too close proximity to the roots of the plant, its effects are fatal. Its value for all purposes is greatly increased, by being mixed with charcoal, or when this is not at hand with plaster. Every man who keeps hens, should have his hen-house so constructed as to save all the manure, and save it dry as may be, and he will find it no inconsiderable item in his matters of rural economy. W. BACON.

Mount Osceola, June 14th, 1847.

HEAVY FLEECES.—Mr. A. L. Bingham, of Cornwall, Vermont, writes us that his flock of 390 Merino sheep averaged the present year's shearing, a fraction over 5 lbs. 7 oz. each, per head, of clean-washed, well-tagged wool. Few buck-fleeces were among these to swell the average. Mr. B. has recently increased his flock to 500 ewes, and having procured for a fresh cross, a superb Merino buck, from the late importation of Mr. Taintor, of Hartford, Ct., he will be able doubtless, another year, to show a lot of lambs which will do him great credit as a breeder.

Ladies' Department.

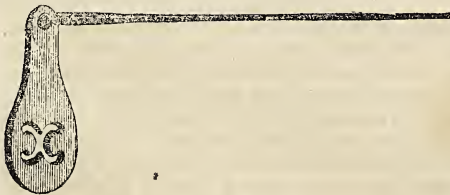
HOW TO MAKE APPLE-BUTTER.

In the December number (1846) of the *Agriculturist*, you express a wish to know how the best apple-butter can be made, and as I consider myself *au fait* at that business, I have great pleasure in sending such directions as I believe to be the best.

The large copper-kettle three-quarters full of new sweet cider, made from sound apples, is set over the fire before five o'clock in the morning. I let it boil two hours, and then put in as many apples, which were peeled, cored, and cut up the night before, as will fill the kettle, and at the same time, I throw in about two quarts of nicely cleaned peach-stones, which by sinking to the bottom, and being moved about incessantly by the *stirrer*, prevent the fruit from settling and burning, which would spoil the whole. I take care in selecting the apples to secure a large proportion of *sour* ones; for, as the cider is sweet, unless this precaution be taken, the sauce will have a vapid taste that nothing can remove; and all the apples must be of kinds that will boil easily to a jelly. On the hearth, around the fire, I place numerous pans and pots of apples and cider, simmering and stewing, which I empty into the kettle as fast in succession as the contents boil away enough to make room for them; but after twelve o'clock I never allow any more to be added to the mass. The boiling must be continued steadily until the whole is reduced to a smooth, thick marmalade, of a dark, rich brown color, and no cider separates when a small portion is cooled for trial.

From the moment the first apples are put into the boiling cider, the whole must be stirred without a moment's intermission, otherwise it will settle and burn; but the handle of the stirrer must be passed from hand to hand as often as fatigue or inclination makes a change desirable.

My kettle holds half a barrel of cider, which, with the first apples in it, begins to boil about nine o'clock in the morning, and the whole is done enough by eight o'clock in the evening, when a sufficient quantity of powdered all-spice, cloves, and cinnamon, may be added to season it to your taste. The apple-butter must be dipped out as soon as possible when it stops boiling; for, if it cools in the copper or brass, it is in danger of becoming poisonous, as may be detected even by the unpleasant taste imparted by the action of the acid upon the copper. I prefer sweet stone, or earthen-ware pots to keep it in, but where the quantity made is very large, a barrel may be employed.



STIRRER.—FIG. 71.

A friend has suggested to me that as our stirrer is not generally known, and as it seems to be the best fitted for the purpose of any instrument I know

of, I send the above sketch, from which any handy lad of fourteen years can easily make one for his mother. The handle should be about six feet long, in order that the cook may keep from the heat and danger of fire. The other part should be of heavy oak-board, six inches broad, with two transverse slits in the lower part, and long enough to reach the bottom of the kettle, so that while it moves, the handle has need only of a steady horizontal motion. E. S.

Eutawah.

HOW TO MAKE PICKLES.

In the preparation of pickles, it is highly necessary to avoid employing metallic vessels; as both vinegar and salt corrode brass, copper, lead, &c., and become poisonous. When it is necessary to heat or boil vinegar, it should be done by placing it in a stone-ware jar in a vessel of hot water or on a stove. Glazed earthen or potter's ware should be avoided either for making or keeping the pickles in, as it is dangerous to health on account of its being glazed with lead, which all acids will corrode or dissolve.

Pickles should be kept from the air as much as possible, and only touched with wooden spoons. The vessels, in which they are kept, should be made of glass or stone, and even those of wood may be employed with success. They are also better preserved in small bottles or jars, than in large ones, as the more frequent opening of the latter exposes them too much to the air. Copper, or verdigris, is frequently added to pickles, to impart a green color; but this *poisonous* ingredient becomes mixed with our aliment, the effect of which on the health of individuals cannot but be sensibly felt. If a green color be desired, it may be imparted to the pickles by steeping in vinegar vine-leaves, or those of parsley, or spinach. A teaspoonful of olive-oil is frequently added to each bottle to keep the pickles white.

Gherkins may be made by steeping small cucumbers in strong brine for a week, and then, after pouring it off, heating it to the boiling point, and again pouring it on the fruit. In twenty-four hours, let the cucumbers be drained on a sieve, then put into wide-mouthed bottles or jars, fill them up with strong pickling vinegar, boiling hot, in which has been steeped a little spice; cork up immediately, and tie over with bladder. As soon as cold, dip the corks into melted bottle-wax, and keep them in a cool place until required for use.

In a similar manner may be pickled, onions, mushrooms, large cucumbers, green nasturtiums, gooseberries, cantelopes, walnuts, melons, barberries, peaches, lemons, tomatoes, bean and pea-pods, codlins, grapes, radishes, cauliflowers, red cabbage, and beet-root, observing that the softer and more delicate articles do not require so long soaking in brine as the harder and coarser kinds, and may often be advantageously pickled simply by pouring very strong vinegar over them, without the application of heat.

HOW TO PREPARE SOYÉS' PATENT MUSTARD.—Steep the mustard-seed in twice its bulk of strong vinegar (distilled or concentrated by freezing) for eight days; grind the whole to a paste; then put it into pots, and thrust into each a red-hot poker.

Boys' Department.

TREATMENT OF ANIMALS.—No. 3.

IN my last number, I promised to say something of a certain horse-taming exploit in connexion with one Sullivan, which will be found in the little book then referred to, entitled the "Horse and his Rider," and is nearly as follows:—

At the spring meeting of 1804, Mr. Whalley's horse, King Pippin, was brought on the curragh, or race-course, of Kildare, in Ireland, to run. He was an animal of the most strangely savage and vicious disposition. His particular propensity was that of flying at, and worrying any person who came within his reach; and, if he had an opportunity, he would turn his head round, seize his rider by the leg with his teeth, and drag him down from his back. For this reason he was always ridden with what is called a *sword*; that is, a strong, flat stick having one end attached to the check of the bridle, and the other to the girth of the saddle—a contrivance to prevent a horse of this kind from getting at his rider.

King Pippin had long been difficult to manage, and dangerous to go near; but on the occasion in question, he could not be got to run at all. Nobody could put the bridle on his head. There was a large concourse of people assembled on the curragh; and one countryman, more fearless than the rest of the lookers on, volunteered his services to bridle the horse. No sooner had he commenced operations, than King Pippin seized him somewhere about the shoulders, and shook him as a dog does a rat. Fortunately for the poor fellow, his body was very thickly covered with clothes; for on such holiday occasions an Irishman of his class is fond of displaying his vardrobe, and if he has three coats in the world, he is sure to put them all on. Owing to this circumstance, the horse never fairly got hold of his skin, and the man escaped with little injury, except the rent and ruined condition of his holiday attire.

The "Whisperer" was now sent for. This mysterious horse-tamer soon arrived, was shut up with the horse all night, and in the morning exhibited the hitherto ferocious animal following him about the course like a dog—lying down at his command—suffering his mouth to be opened, and any person's hand to be introduced into it—in short, almost as quiet as a sheep. He came out the same meeting and won his race, and his docility continued satisfactory for a considerable period; but at the end of three years, his vice returned, and then he is said to have killed a man, for which he was slain.

The man who effected the wonder above described, was an awkward, ignorant rustic, of the lowest class, by the name of Sullivan, but better known by the appellation of the *Whisperer*. His occupation was horse-breaking. The nickname he acquired from the vulgar notion of his being able to communicate to the animal what he wished by means of a whisper; and the singularity of his method seemed in some degree to justify the supposition. How his art was acquired, or in what it consisted, he never disclosed. Sullivan died about the year 1810. His son, who followed him in the same trade, possessed but a small portion of the art, having never

learned the true secret, or being incapable of putting it into practice.

When sent for to tame a vicious beast, Sullivan directed the stable in which he and the object of his experiment were to be shut, with orders not to open the door until a signal was given. After a *tête-à-tête* of about half an hour, during which little or no bustle was heard, the signal was made, and upon opening the door, the horse appeared lying down, and Sullivan by his side, playing with him like a child with a puppy-dog. From that time, the animal was found to be perfectly willing to submit to any discipline, however repugnant to his nature before.

In common cases this mysterious preparation was unnecessary. The whisperer seemed to possess an instinctive power of inspiring awe, the result, perhaps, of natural intrepidity, in which, it is believed, a great part of his art consisted; notwithstanding, the circumstance of the *tête-à-tête* shows that, on particular occasions, something more must have been added to it. S. A.

WASHING HANDS.—To promote the softness of the skin, mild emollient soaps, or those abounding in oil, should alone be used, by which means chaps and chilblains will generally be avoided. The coarse, strong kinds of soap, or those containing much alkali, should for a like reason be rejected, as they tend to render the skin rough, dry, and brittle. The immersion of the hands in alkaline leys, or strongly acidulated water, has a similar effect. When the hands are very dirty, a little good soft soap may be used with warm water, which will quickly remove oily and greasy matter. The use of a little sand, or powdered pumice-stone, with the soap, will generally remove the roughness of the skin even when induced by exposure to cold.

The use of a small quantity of chloride of lime and warm water, will impart a delicate whiteness to the skin; but this should only occasionally be employed, and then it should immediately be washed off with clean water to remove its odor.

LORD BYRON ON CLEAN HANDS.—In an amusing letter to a friend in Paris, in 1817, Byron said: I never was a great phrenologist, Pauline, nor do I pretend to read mankind so quickly as yourself, but if a stranger comes in, I generally look at the state of his hands. To a gentleman, dirty hands are an abomination—that settles one point. A respectable man never presents himself with dirty hands and foul nails—so if I find my customer with these credentials, I conclude that he is an idler, a drunkard, or a scamp, and I show him out as soon as possible.

HOW TO MAKE CONGREVE, OR LOCO-FOCO MATCHES.—Take chlorate of potassa 2 parts; phosphorus 4 parts; gum-arabic 7 parts; and gelatine 2 parts. The phosphorus and gum are first divided or broken, and then brought to a state of thick mucilage by being warmed; the gelatine is melted and added to the phosphorated mucilage. The chlorate of potassa is bruised in a mortar, and at the same time moistened with the mucilage. When it is bruised, the whole is mixed together, and a paste is obtained, with which matches, tipped with sulphur, may be embued. They are then dried in the air.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Cambria, we are in receipt of our foreign journals to the 4th of August.

MARKETS.—*Ashes*, sales limited. *Cotton*, a slight improvement. *Flour and Grain* of all kinds have experienced a further heavy decline in prices. *Provisions* and most other American products were dull and had fallen a trifle.

Money was scarce at 5 to 6 per cent.

The Weather continued very fine, and the harvest in the south of England had commenced promisingly. On the continent the crops prove uncommonly good. The state of the potato-crop leads to the belief that the disease is much mitigated, being confined to small localities.

Show of the English Agricultural Society.—The annual Show of this Society was held at Northampton, on the 20th of July. The Implement Show-yard was larger and better filled than at any previous meeting of this Society. The number of machines exhibited is stated to have been at least one-third greater, and though there were not many novelties among them, their quality was thought to be equal, if not superior, to the standard of the previous year.

The exhibition of cattle, sheep, &c., and particularly of horses, is represented as very excellent.

On our receipt of the full report, if anything offers by the way of improvement, that will be adapted to this country, it will be duly considered.

Solvent Action of Rain-Water on Soils.—In the autumn of 1844, it occurred to John Wilson, Esq., of East Lothian, where the system of thorough drainage is very extensively carried out, that the drainage-water during its percolation of the soil must necessarily dissolve out and carry away a great portion of soluble constituents of it, which, by the practice as at present followed, are carried off the land and consequently lost to the farmer. He accordingly, between that time and the following spring, took advantage of the fall of rain, subjected several samples of drainage-water he had collected, to chemical analyses, the results of which were quite sufficient to show that his conjectures were well founded. During the autumn there fell about the usual quantity of rain. On the 16th of May, 1845, he collected some drainage-water, from a field which had lain plowed in winter fallow, having been prepared, a few days before, for seed, and sown with guano and barley. From this sample of water, 18 lbs., on evaporation, gave $2\frac{1}{2}$ grains of solid residue, or about 8.44 grains to the pound, which were composed of the following ingredients:—

	Grains.
Organic matter, &c.	7.8
Silica,	0.7
Silicate of alumina,	0.2
Peroxide of iron,	2.25
Phosphate of Magnesia,	1.8
Magnesia ?,	1.69
Chloride of Sodium,	2.615
Chloride of calcium,	2.107
Carbonate of lime,	2.7
Phosphate of lime,	3.1
Phosphate of alumina,	0.45
Loss,	2.088
	<hr/> 27.5

From the above experiment it would appear to be expedient for the farmer to avoid using large quantities of soluble manures, at a time, on porous leachy soils; and instead of giving his land sufficient manure to last two or three seasons, to divide the quantity, and apply it in as small a proportion and as frequently as the nature of his crops will permit. — *Condensed from the Philosophical Mag.*

Zinc.—During the last fifteen years I have employed zinc for various purposes to which I thought it was

applicable, such, for instance, as in the covering of structures with flat roofs, where lightness of material was an object, and in the lining of cisterns for growing tender aquatics; also for ornamental chimney-tops, and as gutters for the circulation of hot water on the tank system, &c.; but I regret to say that, unless for the purpose first mentioned, it has not answered the expectations I had formed of its utility. When used for gutters it is liable to bulge and get out of form by every change in the temperature of the water, and very soon breaks into holes. As a chimney-top, I have found that the soot in a short time attaches itself to the metal and rapidly corrodes it. If not attended to, it becomes choked, and in danger of being burnt down by the first spark from the chimney. Of this I have had more than one memorable example, and I should just as soon think of putting up an ornamental chimney-top of wood as of zinc—the one being nearly as inflammable as the other. For dairy-utensils I am aware that zinc has been highly recommended, and milk-pans made of it are said to throw up cream much better than pans of any other material. So far, however, as I have had experience in this respect, I cannot say I have found zinc-pans to possess any superiority over those of earthenware and others in general use. On the contrary, I am convinced, from the little trial I made, that the milk sooner becomes tainted in the former than in the latter, and that zinc-vessels ought to be used with caution for any purpose connected with a dairy, especially when it is known that this metal is most readily acted on by acids, and that the salts so formed are poisonous. — *Gardeners' Chronicle.*

Approved Bee-Flowers.—Borage, mignonette, Phacelia tenacitifolia, Salvia nemorosa, Lythrum salicaria, winter aconite, crocuses of sorts, hepaticas single, wall-flowers single, raspberry, and other fruit-trees, heath, lime-trees, willows, turnip, rape, and all the brassicas, mustard, buckwheat, white clover, lemon, thyme, laurustinus, currant, gooseberry, Chicocoea racemosa, Buddlea globosa, Cactalia suaveolens, white alyssum, winter-velches, autumn-ivy, Hypericum perforatum, archangel, Erysimum peraskianum, Tussilago petasites, dandelion, &c. — *Agricultural Magazine.*

Advantages of Transporting Live Stock on Railroads.—It is estimated that the average loss upon all distances by driving, and consequent saving by conveyance on railway, is 5 lbs. per quarter for bullocks, or 20 lbs.; 2 lbs. per quarter, or 8 lbs. for sheep; and $2\frac{1}{2}$ lbs. per quarter, or 10 lbs. for hogs. This is believed to be a low estimate. Mr. H. Handley, one of the heads of the agricultural interest, calculates the loss on driving from Lincolnshire to London, say 100 miles, at 8 lbs. in weight, and 15s. to 30s. in money for sheep. The time for sheep he calculates at 8 days for getting up to market, which is equivalent to three or four market days, during which the chances of the market may be much affected. The promoters of the Northern and Eastern Railway, in their prospectus, calculate the loss on driving a hundred miles, at 40s. for bullocks, and 5s. for sheep. They estimate the supply of the London market at 150,000 beeves, and 1,500,000 sheep per annum, the saving on which, by railway conveyance, they set down at £675,000. This saving might be fairly taken at 40 lbs. for bullocks, 8 lbs. for sheep, and 20 lbs. for swine; which would give a gross saving of pounds of animal food on the present number conveyed on railways, as follows: on 220,000 cattle, 8,800,000 lbs. of beef; on 1,250,000 sheep, 10,000,000 lbs. of mutton; on 550,000 swine, 11,000,000 lbs. of pork. This would give a total of 29,800,000 lbs. of animal food economized, even at the present moment, in the infancy of the railway system. — *Railway Register.*

Linseed-Oil.—In Rutlandshire many farmers have lately used large quantities of linseed oil in feeding cattle and horses, by sprinkling it on their hay.

Editor's Table.

STOCK AND IMPLEMENTS FOR THE SHOW OF THE N. Y. STATE AG. SOCIETY.—These must all be at Troy early on Saturday morning, September 11th, in order to be transported on that day to Saratoga. Those having stock to show, will bear this particularly in mind. If any are in doubt about the regulations, or wish to be advised on any particular point, they will do well to address B. P. Johnson, Esq., at Albany, Secretary of the Society. In all their calculations, those desiring to exhibit, will bear in mind that it is better to be too early than too late.

RETURN OF PROFESSOR NORTON.—We have great pleasure in stating, that our excellent friend and correspondent, Professor John P. Norton, of Yale College, returned from Europe last month in the Steamship Washington. He has, altogether, spent several years abroad for the purpose of perfecting himself in his studies, and will soon enter upon the duties of Professor of Agricultural Chemistry, at Yale College. Students will now have a good opportunity of studying this highly useful science at home, and we trust it will be the means of giving an impetus to agriculture not yet known among us.

THE PICTORIAL HISTORY OF ENGLAND; being a History of the People, as well as a History of the Kingdom. Illustrated by several hundred wood-cuts of Monumental Records, Coins, Civil and Military Costume, Domestic Buildings, Furniture, and Ornaments; Cathedrals and other great works of Architecture, Sports and other Illustrations of Manners; Mechanical Inventions; Portraits of the Kings and Queens; and remarkable Historical Scenes. By George L. Craik and Charles MacFarlane, assisted by other contributors. New York: Harper & Brothers. Vol. ii., pp. 876, large octavo. Price, 25 cents per number, or \$3.50 a volume. The more we become acquainted with this work, as it issues, the more we are convinced of its excellence and adaptation to the tastes of the American people; not only because it is intrinsically the most authentic, the most attractive, and the most valuable history of England ever published, but because it shows the rise and progress of a race distinguished alike for genius, true bravery, love of liberty, and a generous glow of patriotism, whether considered in respect to time, place, or external influence; with institutions recognising the equality of all in political rights; affording protection to the weak against the powerful; and securing to all equal freedom of opinion and conscience administered according to laws framed with the consent of all.

To show the pains and expense bestowed upon the preparation of this work, it may be stated that, for contributions alone, \$250,000 have been paid, inclusive of payment to artists, printers, and others belonging to the craft. We would invite the especial attention of the farming community generally to the pre-eminent claims of this sterling and most important publication. It is incomparably more thorough, accurate, and attractive, as well as more suited to the habits, feelings, and genius of our people than Hume, Smollett, Granger, Goldsmith, and all former historians; and we therefore repeat the recommendation that every family in our land, who can afford it, should subscribe for the work as it appears in numbers. The illustrations are both curious and very attractive, and we would add are alone well worthy the price asked for the numbers.

DEATH OF MR. SAMUEL WAITE.—We notice with much regret the decease of this excellent friend of agriculture. He died at his residence in Coldenham, Orange County, N. Y., on the 29th of July last. Mr. Waite was a native of Somersetshire, England, but emigrated to this country at an early age, and has ever since assiduously devoted himself to the pursuits of agriculture. He was extensively engaged for several

years in the importation of the improved breeds of horses, cattle, sheep, and swine, both here and at the South and West; and while in this business, he crossed the Atlantic thirteen times. For the past few years he remained on his farm, in Coldenham, devoting his attention to its improvement, and the breeding and dissemination of his flocks and herds. In the formation of the Orange County Scientific and Practical Agricultural Institute, he took an active part. He was also a very efficient member of the Orange County Agricultural Society, and was one of its best supporters. We have often had the pleasure of visiting Mr. Waite, his father, and brothers, all of whom are most excellent farmers. We deeply sympathize with them and all other friends in the loss they have sustained. His place will not easily be made good.

GROWTH OF INDIAN CORN.—The hot weather of the last fortnight has almost doubled the growth of corn. A man in Amherst noted the growth of a single stalk during three hot days last week, as follows: first day, 6 inches; second 5½; third 5; total, 16½ inches in three days.—*Springfield, Mass., Republican.*

Last season, we measured corn for many days in July, in the town of Wheatland. Five inches in 24 hours was the largest growth noted. All vegetable physiologists concur in saying that plants give out carbonic acid at night, and absorb oxygen; and leave it to be inferred that they do not grow except during the light of day. [Can they not receive nourishment through the roots during the night?] We found, however, that corn and a grape-vine increased in length quite as fast from 8 P. M. to 4 A. M., as during any portion of the sixteen hours from 4 A. M. to 8 P. M.

Few are aware how much water a hill of growing corn will throw off from its long and broad leaves during a hot day in July. During this rapid evaporation, not a particle of the mineral matter taken up into the circulation with the water that enters the roots escapes with the vapor into the atmosphere. When these minerals exist in the soil in due proportion to meet the precise wants of the organizing tissues, such organization, in favorable weather, goes ahead at a cracking rate. To feed living corn-plants judiciously, is a point in agriculture not sufficiently understood.—*Rochester Am.*

COUNTRY RESIDENCE OF MR. DEY.—We would call attention to the advertisement of Mr. Dey in another part of our columns. We are informed by those acquainted with his place that it is one of the most desirable residences for a country gentleman to be found in northern New York.

FARMING IN VERMONT.—The largest farm in Vermont is said to be that of Judge Meech, at Shelburne, eight miles south of Burlington. A correspondent who has just been over it says, this year he will mow over 500 acres and cut 1000 tons of hay. He keeps 300 sheep, and has now 400 head of neat cattle. A few days ago he sold fat oxen enough to amount to the sum of \$2460. He has also sold this season 1000 bushels of rye.—*Ex.*

CRANBERRIES.—Mr. William Hall, of Norway, Me., has succeeded in raising cranberries on a patch of boggy land. He sowed the berries in the spring, on the snow and ice. The seed took well, and rooted out the weeds. Last year he gathered six bushels from a patch of land about three rods square, which, a few years since, was entirely useless. If this berry, which commands so high a price, can be as easily cultivated as this, it certainly is an object for farmers to try the experiment on their boggy lands.

CHANGE IN THE POST-OFFICE REGULATIONS.—Postmasters are prohibited from forwarding subscriptions for public journals, as they have been in the habit of doing for a long time past, the regulations which conferred this privilege having been rescinded. Hereafter persons desiring to subscribe, or to renew their subscriptions to newspapers, must enclose the money in a letter.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, AUGUST 21, 1847.

ASHES, Pots,.....per 100 lbs.	\$5 25	to	\$5 31
Pearls,.....do.	8 00	"	8 25
BALE ROPE,.....lb.	5	"	6
BARK, Quercitron,.....ton.	37 00	"	40 00
BEANS, White,.....bush.	1 00	"	1 50
BEESWAX, Am. Yellow,.....lb.	24	"	30
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	12
Speru,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	12
COTTON,.....do.	10	"	14½
COTTON BAGGING, Amer. hemp,.....yard,	11	"	14
FEATHERS,.....lb.	25	"	34
FLAX, American,.....do.	7½	"	9
FLOUR, Northern and Western,.....bbl.	5 00	"	5 88
Fancy,.....do.	6 00	"	6 25
Southern,.....do.	5 00	"	5 75
Richmond City Mills,.....do.	7 25	"	7 31
Buckwheat,.....do.	—	"	1
Rye,.....do.	3 75	"	4 25
GRAIN—Wheat, Western,.....bush.	1 20	"	1 25
Southern,.....do.	1 00	"	1 20
Rye,.....do.	83	"	88
Corn, Northern,.....do.	75	"	80
Southern,.....do.	74	"	78
Barley,.....do.	50	"	52
Oats, Northern,.....do.	55	"	60
Southern,.....do.	45	"	50
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.	45	"	50
HEMP, Russia, clean,.....ton.	275 00	"	280 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	7	"	9
HOPS,.....lb.	10	"	15
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	3 90	"	4 00
Sheet and bar,.....lb.	4½	"	5½
MEAL, Corn,.....bbl.	2 50	"	3 00
Corn,.....hhd.	20 00	"	22 50
MOLASSES, New Orleans,.....gal.	37	"	39
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 25	"	2 63
Pitch,.....do.	88	"	1 06
Rosin,.....do.	55	"	70
Turpentine,.....do.	2 75	"	3 00
Spirits Turpentine, Southern,.....gal.	46	"	47
OIL, Linseed, American,.....do.	65	"	75
Castor,.....do.	80	"	1 00
Lard,.....do.	80	"	85
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	1 50	"	1 60
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	10 00	"	13 75
Prime,.....do.	8 50	"	9 50
Smoked,.....lb.	7	"	11
Rounds, in pickle,.....do.	5	"	7
Pork, Mess,.....bbl.	14 00	"	16 00
Prime,.....do.	11 00	"	13 62
Lard,.....lb.	10	"	11½
Bacon sides, Smoked,.....do.	6	"	8
In pickle,.....do.	5	"	7
Hams, Smoked,.....do.	8	"	12
Pickled,.....do.	6	"	10
Shoulders, Smoked,.....do.	6	"	8
Pickled,.....do.	5	"	7
RICE,.....100 lbs.	4 88	"	5 75
SALT,.....sack,	1 40	"	1 50
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	6	"	9
Timothy,.....bush.	1 75	"	3 50
Flax, clean,.....7 do.	10 00	"	11 00
rough,.....do.	9 25	"	9 50
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	6	"	9
SUMAC, American,.....ton.	35 00	"	37 50
TALLOW,.....lb.	9	"	9½
TOBACCO,.....do.	2	"	7
WHISKEY, American,.....gal.	27	"	28
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	30	"	35
Half blood,.....do.	20	"	25
Common do,.....do.	18	"	20

REMARKS.—We have few changes to make in the quotations of our price current, and these few are unimportant. The news per Cambria, of the heavy fall in prices of Flour and Grain in Europe, had but a slight effect on our market the day after her arrival, and this has already been fully recovered. The home demand being nearly equal to the supply, there is little fear of prices ruling much lower than at present, let the harvest be ever so abundant abroad; but if bad weather should set in, prices of grain would materially advance.

Money is very plenty and business uncommonly active.

The Weather was too wet during the fore part of last month at the South, and the cotton crop has consequently suffered somewhat. The Corn-crop there is already secured, and proves the largest ever raised in that section of the country. Other Southern products are doing finely. Everything has been well harvested at the North, with the exception of oats, which were injured more or less by the rain. The corn and root-crops continue to look remarkably well, and a fortnight hence, if the weather continues favorable, they will be perfectly matured and out of danger.

ACKNOWLEDGEMENTS.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, cultivated and for sale by Ellwanger & Barry, at the Mount-Hope Botanic Garden and Nurseries, at Rochester, N. Y.; Also, a Descriptive Catalogue of Fruit and Ornamental Trees, Flowering Shrubs, and Green-House Plants cultivated and for sale at the Buffalo Nursery and Horticultural Garden, by Benjamin Hodge.

TO CORRESPONDENTS.—Communications have been received from N. Longworth, J. M. R. S., A New Yorker, E. S., M. W. Phillips, A. W. Poole, and J. S. Peacock.

A Connecticut Youth is informed that vegetables generate humus, but not earth, technically so called.

We take pleasure in announcing a work on the present state, productions, commerce, &c., of "The Unknown Countries of the East," by Aaron H. Palmer, Esq., of which due notice will be given when published.

GALLOWAY COW.

A SUPERB black Galloway Cow, warranted to be of pure blood, and imported from one of the best herds in Scotland. She keeps easily, and gives a fair quantity of uncommonly rich milk. Price \$50. A. B. ALLEN & CO., 187 Water st., N. Y.

CRANBERRY PLANTS.

SEVERAL thousand Cranberry plants for sale, carefully done up in boxes, in qualities to suit purchasers. Price \$7 per thousand, or \$1 per hundred.

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ANCIENT AND REAL LINNÆAN BOTANICAL GARDEN AND NURSERY,

LATE OF WILLIAM PRINCE, DEC., FLUSHING, L. I., NEAR NEW YORK.

THE New Proprietors of this celebrated Nursery, known as Prince's, and exclusively designated by the above title for nearly fifty years, offer for sale every description, including the newest and choicest varieties of Fruit and Ornamental Trees, Shrubs, Vines, Plants, Roses, &c., the genuineness of which may be depended upon; and they will unremittently endeavor to merit the confidence and patronage of the public, by integrity and liberality in dealing, and moderation in charges.

Descriptive Catalogues gratis, on application, post paid.

September 1, 1847.

WINTER & CO.

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HORSES FOR SALE.

THREE Pair Fine Horses, now in the country; bay and brown with long tails; well matched, fine travellers, and superior; bred in Western New York. Address J. M. SHERWOOD, Auburn, N. Y.; or A. B. ALLEN, 187 Water st., N. Y.

CORN-MILLS.

THE subscribers are now supplied with a newly invented Cast-Iron Mill, for grinding Corn and other Grain, either by hand or horse power. It will grind from 3 to 4 bushels per hour. Price \$30.00.

Also the hand Corn-Mill, which grinds from 1 to 1½ bushels per hour. Price \$6.50.

These Mills are highly economical and convenient, and every farm and plantation ought to have them. They are simple in construction, not liable to get out of repair, and are easily operated. When one set of plates is worn out, they can be replaced by others at a trifling cost.

A. B. ALLEN & CO., 187 Water st., N. Y.

PENNOCK'S SEED-PLANTER.

WITH this machine a man and two horses can drill from 10 to 12 acres of wheat per day, in the most accurate manner. It also answers to drill corn or sow other seeds. Price \$100.

A. B. ALLEN & CO., 187 Water st., N. Y.

WANTED.

A SITUATION as overseer on a plantation, by one who has devoted his whole life to practical and theoretical farming. An interview can be had by addressing L. G., care of the Editor of the Agriculturist, 187 Water st., New York. au3t

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This book is fitted to dispose minds to reflection which may not have evinced any such tendency, and to the most reflecting it will not fail to supply welcome materials for thought.—*British Quarterly Review*.

THE USE OF THE BODY IN RELATION TO THE MIND. By the same Author.

One of the profoundest works on mind and matter that we have seen for many years. It would be impossible, without making an analytical review of the work, to express its merits.—*Louisville Journal*.

OMOO; or, Adventures in the Pacific. By HERMAN MELVILLE.

The phoenix of modern voyagers, sprung, it would seem, from the mingled ashes of Captain Cook and Robinson Crusoe.—*Blackwood*.

A stirring narrative of very pleasant reading, possessing much of the charm that has made Robinson Crusoe immortal.—*Douglas Jerrold*.

MEN, WOMEN, AND BOOKS. By LEIGH HUNT.

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About a "little of everything," written in a style and upon subjects amusing, instructive, and entertaining. A London Review says, with truth, that they are full of variety, beauty, and cheerfulness. It is a book to lie in the cherished corner of a pleasant room, and to be taken up when the spirits have need of sunshine.—*Christian Intelligencer*.

PRESCOTT'S CONQUEST OF PERU; Two vols. 8vo. Muslin. With Engravings.

Elaborately woven from the thread of historical events, it is yet invested with all the interest of the most skilful and exciting romance.—*Tribune*.

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We do not know of any work in the language which tells the "same things so well and so prettily."—*London Herald*.

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There is novelty and freshness throughout the tale which will render it extremely popular.—*Critic, &c.*

SOUTHEY'S LIFE OF WESLEY; With Notes by Coleridge and Others.

A standard work, which ought to be found upon the shelves of every library. The classic pen of Southey has given a biography of the founder of Methodism, as interesting as it is instructive, while the history of the great religious movement that followed is admirably drawn. The annotations of Coleridge are full of pith, while Knox's graphic portrait, brief as it is, is worth volumes by an inferior hand.—*Prot. Churchman*.

HOWITT'S HOMES AND HAUNTS OF THE POETS; Two vols. with Engravings.

Of this work we have to say that which can be said of few of its class in the general run of our book-making and compiling age, viz. that it is *bona fide*, and the information not only thoroughly read for, but actively sought by personal travel and exertion, and the whole digested with ability and care. Nothing more could be done by an author.—*London Lit. Gazette*.

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This is a book that deserves the attention of the thoughtful, and of all who study the history of the human mind. The work is written with all the taste and refinement of an accomplished scholar, and with the feeling, devotion, and spirit of a true Christian.—*Springfield Rep.*

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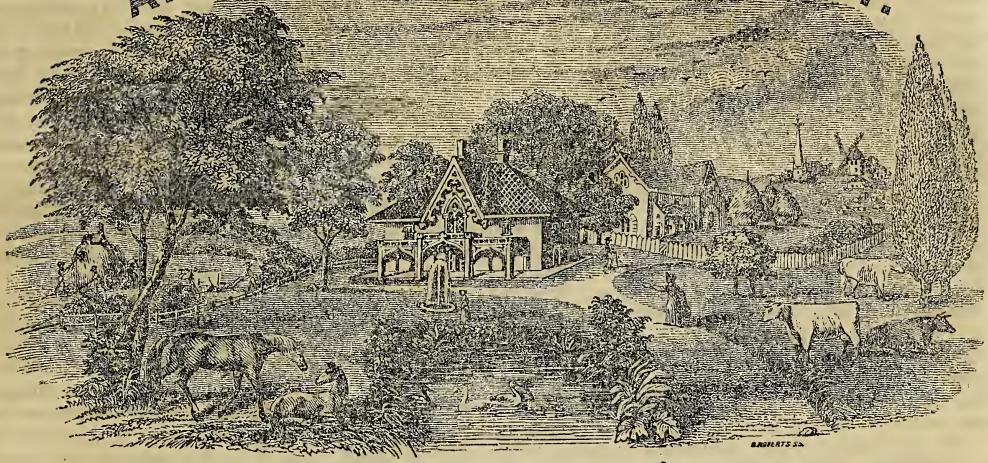
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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VI.

NEW YORK, OCTOBER, 1847.

NO. X.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

HOW TO MAKE MARMALADES.

MARMALADE, properly speaking, is a conserve made of quinces and sugar, being derived from the Portuguese *marmello*, a quince. The term now, however, is commonly applied to other fruit-conserves, made by cooks, confectioners, &c. Marmalades are prepared either by pounding the pulp of fruit in a mortar, with an equal or a larger quantity of powdered white sugar, or by mixing them together by heat and passing them through a hair-sieve while hot, and then putting them into pots or glass-jars. The fruit-pulps are obtained by rubbing the fruit through a fine hair-sieve, either at once, or after it has been softened by boiling. When heat is employed in mixing the ingredients, the evaporation should be continued until the marmalade becomes a jelly on cooling. The following are the chief marmalades in common use:—

1. *Quince Marmalade*.—Select your quinces when they are fully ripe, pare and quarter them; take out the cores and put them in a sauce-pan, well tinned; cover them with the parings and spring water; put on a close lid, and let them stew over a slow fire until they are of a pink color; then take out your quinces, beat them to a pulp, and strain off the liquor. Take a pound of loaf-sugar to every pint, boil and skim it well, then put in the quinces and boil gently nearly an hour, stirring constantly. When cold put it in glasses, and tie down tightly.

2. *Apricot Marmalade*.—Pulp of apricots and white sugar equal quantities by weight, prepared as above.

3. *Barberry Marmalade*.—Pulp of barberries and white sugar equal parts, prepared as above.

4. *Tomato Marmalade*.—Prepared as apricot marmalade, with the addition of a few slices of onions and a little parsley.

5. *Wood-Sorrel Marmalade*.—Take sorrel leaves

1 lb.; powdered white sugar 3 lbs.; and beat together in a mortar. Pleasant, cooling, acidulous, and has a fine red color.

6. *Apple Marmalade*.—This is the common apple-butter of the United States, or the *rasiné* of France, the directions for making which will be found on p. 265 of volume v. of the *Agriculturist*, and on p. 290 of the present volume.

APPLE-ORCHARDS.—No. 2.

Soil and Situation.—The apple-tree, to attain its greatest perfection and productiveness, requires a soil more or less calcareous, or one that rests upon strata abounding in marls, marly clays, or calcareous sandstone. It has been observed that the best apple-orchards in England are situated on the marls of the old red sandstone of Herefordshire; and those of the new red sandstone, the marly clays of the lias, and the calcareous and often marly beds of the inferior oolite, in the counties of Worcester, Gloucester, Somerset, and Devon. It has also been observed in Ireland, that the apple-tree flourishes best on limestone-gravel; and in Scotland, that the few orchards which exist in that country, are to be found on soils more or less calcareous. On the continent of Europe, the two districts most famous for the apple are Normandy and the vale of Stutgard, in both of which the soil is well known to abound in lime or marl. It has also been observed, that early fruits attain their greatest perfection in light, moderately rich, sandy soils; and that the late fruits succeed best when planted in a soil that is strong and clayey. Trees will sometimes grow luxuriantly on deep gravels and grauwacke-slate, without bearing apples. It has been found by experience that the above named principles will hold good in the various parts of the United States. Within the last few years, much light has been

thrown upon the adaptation of soils to particular plants, and it is now regarded as an established fact, that the apple-tree requires alkaline and probably earthy bases, as an indispensable condition to the perfection of its fruit. It has been shown by several enlightened chemists that the acids generated in plants are always in union with alkaline or earthy bases, and cannot be produced without their presence, that all deciduous trees require a considerable portion of potash for the elaboration of the juices in their leaves, and that they are prosperous or otherwise, in proportion to the scarcity or abundance of that substance in the soil. It is well known that all clays contain potash, and that marls are principally composed of clay and carbonate of lime, and also contain potash, besides sulphate and phosphate of lime. Hence the presence of alkaline and earthy bases, particularly potash and lime, affords a satisfactory solution of the adaptation of marly soils to the production of apples, even without taking into account the part which phosphate and sulphate of lime play in their formation.*

With regard to the aspect best adapted to orchards, the surface, in general, should be more or less undulating, and at the same time sheltered from the extremes of heat and cold; and it has often been remarked, that abrupt acclivities, which are too steep for tillage by the plow, or for the pasturage of heavy cattle, have been more certain in the production of fruit. Very open, or very elevated, exposed situations, as well as the bottoms of deep-sunk valleys, are alike unfavorable to the perfection of orchards. The former, from the low temperature and the violence of the winds, and the latter, from the liability to cold fogs and late vernal frosts at the time the trees are in blossom, often, in one fatal night, utterly destroy the husbandman's hopes. A severe frost in early autumn, in a single night, may prove equally fatal to the tender flower-buds, in the latter situation, or, if not fatal, sufficiently injurious to impair their vitality, and render them unfit to withstand the cold of the ensuing winter; and, should they escape and put forth the following spring, the fruit will be knotty, blotched, and unfair. In planting an orchard, therefore, in Britain, or in the northern parts of Anglo-America, the site should not be chosen

"In lowly vale, fast by a river side,"

nor, on the contrary, at an elevation too much exposed, but on moderately sheltered southern slopes, and where choice will further permit, inclining rather to the east than to the west. Planting the rows in a northerly and southerly direction, is thought to be advantageous, in order that the trees may derive the greatest benefit from the sun. But in the Middle and Western sections of the United States, more especially if the locality be in the region of large bodies of water, a northern exposure has proved to be decidedly more certain in producing fruit, than slopes inclining towards the south.

Propagation from Seeds.—The apple-tree, and all its varieties, may be propagated from seeds, by grafting, or inoculation, and by cuttings and layers. It is a prevailing opinion in England, that the hardiest and best stocks are those which are raised from the seeds of the wild crab, and Mr. Knight

recommends that the pips should be taken from the fruit before it is pressed. The mode practised in the Goldworth nursery, where fruit-tree stocks perhaps are raised on a more extensive scale than anywhere else in the world, is to gather the crabs when they are fully ripe, and to lay them either in a heap to rot, or to pass them between two fluted rollers, and then to press out the juice, which is thus converted into an inferior kind of cider, and afterwards to separate the seeds from the pomace by maceration in water, and sifting. It is the opinion of many persons, both in Europe and in America, that it is of little consequence whether they are particular in the selection of seeds for sowing, from the fact that the fruit of trees raised from pips of the same apple differ both from the parent tree and from each other. But let it be considered that, when these variations take place, they may not always tend to deteriorate the fruit, but may often result in an exchange of one good quality for another, or may perhaps even exhibit improvements in the qualities. For instance, we may, at least, expect to obtain early fruit from the seeds of that which is early, and from those of late fruit the reverse; and by parity of reason, from sweet or sour, from juicy or dry fruit, we may also expect to obtain seedlings that will, in a considerable degree, correspond to their origin—a result, which it may often be an object for the cultivator to secure. Indeed, if it be true that it is of "little consequence" what kind of pips we employ, there certainly can be no detriment in sowing seeds of good fruit; and this, we conceive will be a sufficient hint for the prudent nurseryman to observe. The pomace, therefore, should be obtained from the apples of healthy and vigorous trees, and should be thickly strewed, and covered with earth, in shallow trenches about eighteen inches apart, so as to admit of the young plants being well hoed and weeded, by hand, in the following summer. Immediately after the fall of the leaf, in the ensuing autumn, the strongest and the most vigorous plants may be drawn, and planted in rows eighteen inches apart, and the same distance from each other, in a soil previously trenched, manured, and cultivated for garden produce. The remaining plants should be similarly managed in the following year. During their second and third year's growth, the ground should be kept perfectly free from weeds by repeated hoeings, and the plants would be greatly benefited by a light forking between the rows. No knife should be allowed to touch them in this stage, unless it be to shorten an over-rampant shoot, which may be making too strong a diversion from the stem, and not even then, if it be more than a foot from the ground, particularly when it is intended to graft the stem; for every twig and every leaf contributes to the growth of the root and stem. In the second or third year, when the stems of the plants have acquired half an inch or more in diameter, at a foot from the ground, the heads may be cut off, and the operation of grafting or inoculation performed; but where the object is to produce new varieties for standard trees, the plants should be trained in the nursery, with tolerable good heads, clearing the stem generally from lateral shoots, according as circumstances may require. The plants should frequently be hoed, and at least once a year, the ground between the rows

* See Journ. Roy. Ag. Soc. of England, vol. iv., p. 380.

should be dug half a spade deep, turning the top of each spit clean to the bottom, in order that all weeds on the surface may be buried a proper depth to rot. Care must be observed, from year to year, to kill all caterpillars which may devour the leaves of the young trees, and carefully to destroy the eggs of the borer (*Saperda bivittata*), that are deposited near the ground in the stem of the tree. If the borer perforate the wood, which may be known by a wound or excrescence in the bark, it may easily be reached by a pliant wire and crushed to death. The trees will be greatly benefited by rubbing their trunks with a ley of wood-ashes, or strong soap-suds, which will invigorate their growth and tend to ward off all insect attacks.

HOW TO WHITEN LINEN.—Fruit-stains, iron-mould, and other spots on linen, may be removed by applying to the part, previously washed clean, a weak solution of chloride of lime or of soda, oxalic acid, or salts of lemon, in warm water, and often it may be done by merely using a little lemon-juice. The part which contained the stain, or spot, should shortly after be thoroughly rinsed in clear, warm water (without soap), and immediately dried in the sun.

Linen that has acquired a yellow or dingy color by careless washing, may be restored to its former whiteness by working it well in water to which some *strained* solution of chloride of lime or of soda has been added, observing to well rinse it in clean water, both before and after the immersion in the bleaching liquor. Never attempt to bleach *unwashed* linen, and avoid using the liquor too strong, for in that case the fabric will be rendered rotten.

CULTIVATION OF TURNIPS.—No. 4.

Properties and Uses.—The chemical ingredients of which the turnip is composed, whether of the flat-bulbed or globe varieties, Swedish, or hybrid, vary, in their proportions, according to the soil, climate, season in which they are planted, age of the plant, and the application of artificial manures.

The proportion of water in the bulbs and leaves is very variable, that of the bulbs ranging from 86 to 92 $\frac{7}{10}$ per cent., while that of the leaves varies from 70 to 90 per cent. The excess of water is attributable to the use of artificial manures, as the superphosphate of lime, guano, &c., which may cause three or four tons of turnips to grow upon an acre, but the increased crop may even be less valuable than the smaller produce, the excess of weight being more than counterbalanced by the greater proportion of water. Experience has proved that, by the use of artificial manure, the apparent increase of water (wet weight) in the turnip may be 35 per cent., while the real increase of solid matter (dry weight), may be only 14 per cent. It has been further proved by experiments that a very small deviation in the per centage of water alters materially the value of the crop in feeding properties, so much so that ten tons of one crop may contain as much solid food as twenty tons of another.

The per centage of mineral matter in the bulbs and tops of turnips is also very variable. The turnip-bulb, in its ordinary condition, may contain from $\frac{4.8}{100}$ to $\frac{1.13}{100}$ per cent., of mineral matter,

while the ash, given by the tops, contains in almost all cases twice, and in many cases three times as much mineral matter as the bulbs, varying from $\frac{1.9}{100}$ to $\frac{2.64}{100}$ per cent.

Little or no connexion appears to exist between the amount of mineral matter and the variety of the plant. The flat-bulbs, Swedes (ruta-baga), and the intermediate varieties, the hybrids, are in no way distinguished from each other by the quantity of the mineral ingredients they contain; nor do the soil and manures appear always to influence the turnip in these respects, as one sample grown on a chalky soil, manured with 20 single-horse cart-loads of fermented farm-yard manure, almost spent, and seed-drilled in 1 cwt. of bones dissolved in $\frac{1}{2}$ cwt. sulphuric acid, with 20 bushels of ashes per acre, and another sample grown on dark mould with a subsoil of yellow clay, manured with 10 bushels of soot, and 10 bushels of pure cow-dung, mixed with 20 bushels of ashes, and 1 cwt. of bones with 56 lbs. of sulphuric acid, a very great similarity in the quantity of ash was observed both in the bulb and in the top, and in other cases, a difference may be seen in the mineral contents of two turnips of different varieties growing in the same field with the same manure. But the evidence, on the whole, is in favor of the conclusion that the mineral matter is regulated more by the soil and manure than by the variety, although the distinctive character of the root is never set aside.

The composition of the ash of different specimens of turnips will be seen by the following tables which we copy from a recent volume of the Journal of the Royal Agricultural Society of England:—

COMPOSITION (IN ONE HUNDRED PARTS) OF THE ASH OF TURNIP-BULBS.									
Variety.	Skirving's Swede.	Dale's Hybrid.	Dale's Hybrid.	Skirving's Swede.	Green-top White.	Mean of the six Specimens.			
Per Centage of Ash.	0.75	1.09	0.725	0.88	0.592	..			
Silica	2.69	2.75	1.12	1.63	.96	1.81			
Phosph. Ac.	9.31	8.77	10.71	12.51	7.65	9.85			
Sulph. Ac.	16.13	11.71	11.22	11.26	12.86	13.12			
Carb. Ac.	10.74	12.66	12.05	9.54	14.82	11.96			
Lime	11.82	6.46	8.87	11.36	6.73	9.93			
Magnesia.	3.28	2.51	1.93	2.44	2.26	2.61			
Perox. Iron	0.47	0.14	0.63	0.28	0.66	0.46			
Potash	23.70	36.93	32.39	36.16	48.56	34.10			
Soda	14.75	8.01	6.71	4.99	5.44	7.96			
Chlo. Sodium.	7.05	10.00	14.30	9.77	..	8.13			
Chlo. Potass.	..	..	..	..	..	..
Total	99.93	99.94	99.93	99.94	99.94	99.93			

COMPOSITION (IN ONE HUNDRED PARTS) OF THE ASH OF TURNIP-TOPS.									
Variety.	Skirving's Swede.	Skirving's Swede.	Dale's Hybrid.	Dale's Hybrid.	Skirving's Swede.	Skirving's Swede.	Skirving's Swede.	Green-top White.	Mean of the six Specimens.
Per Centage of Ash	1.97	1.95	1.19	1.19	1.95	1.97	1.61	1.82	..
Silica	8.04	1.14	1.96	1.96	1.14	8.04	4.11	2.05	3.99
Phosph. Ac.	4.85	6.21	4.58	4.58	6.21	4.85	6.54	3.15	6.17
Sulph. Ac.	10.36	12.20	6.71	6.71	12.20	10.36	6.50	7.83	8.43
Carb. Ac.	6.18	12.97	13.82	13.82	12.97	6.18	6.16	14.64	9.98
Lime	28.49	30.38	35.10	35.10	30.38	28.49	23.99	28.73	28.49
Magnesia	2.62	3.18	1.75	1.75	3.18	2.62	2.92	2.85	2.81
Perox. Iron	3.02	0.66	0.61	0.61	0.66	3.02	1.90	0.80	1.68
Potash	11.56	20.79	13.53	13.53	20.79	11.56	20.36	12.68	15.21
Soda	12.43	..	4.60	4.60	..	12.43	..	..	2.84
Chlo. Sodium	12.41	10.31	18.02	18.02	10.31	12.41	17.69	10.67	15.30
Chlo. Potass.	..	2.09	..	..	2.09	..	9.77	16.56	5.04
Total	99.96	99.93	99.98	99.98	99.93	99.96	99.94	99.96	99.94

From the first of these tables we may learn that there is a certain and somewhat close resemblance between the composition of the ash of one turnip bulb and that of another. The quantity of phosphoric acid is seen to be tolerably constant, and the alkalies, together, make up nearly the same amount.

The second table exhibits far wider differences in the composition of the ash, the phosphoric acid of one specimen being double that of some others, &c., &c. In the growth of plants of this description, the construction of the materials is supposed to go on in the leaves from which the vegetable matter, when fully worked up, descends into the tubers, and is there deposited. The leaves, therefore, would not only contain their own proper mineral constituents, but the greater part of the excess of such bodies as had entered the plant.

The ash of the top differs from that of the bulb chiefly in containing less phosphoric and sulphuric acids, less potash, but a great deal more lime. Neither in the top nor in the bulb is there much silica, but the ash of both contains much carbonic acid and a considerable quantity of chloride of sodium (common salt). It will be seen that the leaves contain much more of the last-named salt than the bulbs, the quantity in Dale's hybrid amounting to 11½ lbs. to a ton of green tops. This circumstance may, in part, explain the action of turnip-tops in causing purging in sheep when they are first turned upon them to feed. Other alkaline salts, such as the phosphates of soda and potash, and other organic salts of these bases, oxalate, tar-

trate, &c., and which are known as purgatives, exist largely in the leaves of the turnip.

The turnip, like most root-crops, from the great development of its gas-collecting leaves, is believed to be comparatively independent of the soil for vegetable nourishment. It is stated that it may in reality have the property of adding to, rather than taking from, the quantity of vegetable matter in the soil, even when entirely removed—for land has been found after several years cropping with turnips, all the produce being carried off, absolutely richer in organic matter than at first, the plant having returned to the soil more than it had taken from it. This principle is founded upon the belief that in the circulation of the vegetable juices of the plants there is a continual ejection into the soil of matters not required in the economy of their growth; but whether the amount thus voided much exceeds that which is taken in by the roots, it is difficult to decide. It is extremely likely, however, that in broad-leaved plants of rapid growth this result may sometimes occur.*

The turnip is one of the most valuable roots for culinary or economical use. Its young tops when boiled afford a good substitute for greens. The bulbs are very useful in fattening cattle of every kind. Thus if sheep be properly fed with them, their flesh will acquire a delicate flavor; and it is well known that they will speedily fatten on the tops, without eating the roots. Turnips likewise afford an invigorating food to horses; and, when cut into small pieces, these animals will be induced to eat chaff and other provender with an increased appetite. Cows devour both the tops and roots with equal avidity; but they are apt to impart an unpleasant flavor to their milk. The last-named circumstance and the mode of feeding out the crop are subjects for future consideration.

SALTING MEAT.

THE sooner meat is salted after being killed the better, as it then possesses considerable absorbent power, which it gradually loses by age, and when it once becomes putrid it can never be salted at all. One of the best modes of curing is, to rub the meat well with a mixture of common rock-salt 2 lbs.; saltpetre 2 oz.; and moist sugar 1½ oz., till every crevice is thoroughly penetrated, after which it should be set aside till the next day, when it should be covered with fresh salt in such parts as have been most exposed. It may then be advantageously placed in a proper vessel and subjected to pressure, adding a little more salt as may be necessary, and turning it daily till sufficiently cured.

When the brine, as it forms, is allowed to drain from the meat, the process is called *dry-salting*; but when, on the contrary, it is allowed to remain on it, the mode is called *wet-salting*. On a small scale, the latter is most conveniently performed by rubbing the meat with salt, &c., as above directed; and after it has lain a few hours, putting it into a pickle formed by dissolving 4 lbs. of rock-salt, ½ lb. of sugar, and 2 oz. of saltpetre in 2 gallons of water. This pickling liquor becomes weaker by use, and should therefore be occasionally boiled down a little and skimmed, adding, at the same time, more of the dried ingredients.

* Journ. Roy. Ag. Soc. of England, vol. viii., pp. 135 et seq.

NEW YORK FARMERS' CLUB.

Good Effects of Deep Plowing.—Hon. Dixon H Lewis, of Alabama, on being called upon by the President of this Club, a few months since, for some observations on Southern Agriculture, remarked that, by a long course of cultivation, land becomes exhausted at the surface, and consequently deep plowing is requisite to bring up the subsoil, in order to impart to growing plants the greatest possible amount of nutriment. He stated that he had planted corn for some twenty years, and that his crops formerly averaged from fifty to seventy bushels per acre; but late years, they had not amounted to more than thirty to forty-five bushels to the acre—the reduction being caused, as he thought, in consequence of shallow plowing.

To remedy the evil, Mr. Lewis put in operation on his plantation, a subsoil-plow driven into the ground with the full strength of three horses, sixteen inches deep, so that the subsoil was turned up to the surface from that depth. From the accounts he had last received from his overseer, the prospects of his corn-crop, for the present season, bid fair to yield double the product of the last few years past, which he attributed mainly to the use of the subsoil-plow.

Prepared Guano.—A circular and advertisement from S. F. Halsey, of New York, were distributed among the members of the club purporting to sell a Prepared Guano at *One Cent per Pound!* Guano, as imported in its crude state, is represented as *not fit for use!* According to the language of the advertiser, "It usually contains at least twenty per cent. of water, which is a heavy loss to the farmer. Crystals of ammonia also abound in it, so that if it be employed in its crude condition, it proves greatly too powerful for any kind of vegetation."

"In the 'Prepared Guano,' these defects are remedied. Being combined with the most fertilizing *absorbents*, they prevent the escape of the ammonia and give it out to vegetation, only as it requires it. What they thus part with to plants, they *again attract from the atmosphere*, which renders the 'Prepared Guano' durable and *permanently nutritive for years!*" It is stated that, "last spring the demand was so extensive, that many orders unavoidably remained unexecuted," and that "applications should therefore be made early, for the fall and winter crops, a large quantity having been prepared in anticipation" (a).

(a) Whenever a new invention or a discovery is offered for public use, or for experiment, that appears to possess merit and bids fair to be applied with a tolerable degree of success, we are ever among the first to encourage its adoption; but when the farmer or the gardener is beset by a *gross humbug*, or is liable to be led into error, either by ignorance or design, we, as public journalists, consider it our duty to apprise him of it, after which he may be governed by his own choice.

Of the article above referred to, in itself, we possess no knowledge; but as the principles set forth by the advertiser are at variance with the experience of practical men, and with a full belief that every farmer can prepare his own guano, at a cheaper rate than "one cent per pound," we do not

feel justified in suffering the subject to pass in silence.

In the outset, directly in the face of the fact that guano has been annually used for several years as a fertilizer both in Europe and in America, by thousands of tons, and has been attended with the most unequivocal and beneficial results, we are told by the advertiser, that, as imported, it "is not fit for use." Again, for him to say that good Peruvian guano abounds in crystals of ammonia, or that it contains twenty per cent. of water, would be equally unfounded. His theory, too, in regard to the "absorbents" of his compound attracting ammonia from the atmosphere in sufficient abundance to produce a good crop of grain, or that any one preparation of manure can be made "permanently nutritive" for such a crop, is not in accordance with the dictates of reason nor with practical experience. It is true that it was argued by Liebig, a few years ago, that the atmosphere can supply the ammonia from which plants derive their nitrogen, in sufficient quantity for agricultural purposes; but his views on this subject have since been changed; yet the farmer should bear in mind that agricultural plants, which practice has shown to differ widely from each other in their respective relations to soil, climate, manuring, and position in rotation, possess, at the same time, widely different powers of reliance upon the atmosphere for the constituents which it is known to supply in a greater or less degree.

Guano, it is well known owes its fertilizing properties principally to the ammonia it contains; and ammonia, when liberated, is a highly volatile substance, which must be obvious to every one who has sown guano on a hot day, from the scent caused by its best part (the ammonia) escaping into the air instead of being kept in the ground. This ammonia may be deprived of its power of volatility, in ordinary temperatures, by mixing 300 lbs. of Peruvian guano with an equal weight of ground plaster (gypsum), to which should be added at least 600 lbs. of dry leaf-mould or pulverized peat, the whole to be thoroughly incorporated and kept free from moisture or wet. By so doing, the farmer will not only economize in the use of his guano, but render its effects more lasting, and will obtain an excellent fertilizer for an acre of almost every kind of crop for less than three-fourths of a cent per pound.

THE DOMESTIC FLORA OF CHINA.—No. 4.

Cemeteries.—During the summer which had now passed by, I had had frequent opportunities of inspecting the tombs of the Chinese both in the northern and southern districts. In the south, the natives form no regular cemeteries or churchyards, as we do in Europe, but the tombs of the dead are scattered all over the sides of the hills, the most pleasant situations being generally selected. The more wealthy individuals often convey their dead a considerable distance, and employ a kind of fortune-teller, whose duty it is to find out the most appropriate resting-place. This man goes with the corpse to the place appointed, and of course pretends to be very wise in the selection of the spot, as well as in the choice of the soil with which the ashes of the dead are to mingle in after years; and upon trial, should the particular earth appear unsuitable, he immediately orders the procession off to some

other place in the neighborhood, where he expects to be more successful.

A situation on the hill-side is also considered of great importance, especially if it commands a view of a beautiful bay or lake. But I believe that of all places the one most coveted is where a winding stream, in its course, passes and then returns again to the foot of the hill where the grave is to be made. The director of the ceremonies, with a compass in his hand, settles the direction in which the body is to lie, which is another point of great importance. An intelligent Chinese, with whom I was acquainted, informed me that this fortune-teller of the dead is often very eloquent in his descriptions of the future happiness of those who obey his directions; he informs them that they or their children, or some one in whom they are much interested, shall enjoy riches and honors in after life, as a reward for the attention and respect they have paid to the remains of their fathers; that as the stream which they then behold when standing around their father's grave flows and returns again in its windings, so shall their path through life be smooth and pleasant until they sink into the tomb hoary with years, respected, beloved, and mourned by their children.

In my travels in the south of China I often came upon graves in the most retired places amongst the hills; they were all more or less of the same form, namely, a half-circle cut out of the hill-side, having the body interred behind it. Sometimes, indeed generally, there were several of these half-circles with a succession of terraces in front of the grave; and in the burying-places of the more wealthy, the semi-circles were built of brick or stone, and on a more extensive scale. In the centre of the semi-circle, and of course near the body, the gravestone is placed with its inscription. M. Callery, an excellent Chinese scholar, informed me that these inscriptions are always of the most simple kind, merely stating the name of the deceased, that he died in such a dynasty, in such a year. This is the plain and unflattering tale which the Chinese tombstone tells. In some instances—I cannot tell if in all—after the body has decayed, the bones are dug up, and carefully put into earthenware vessels, which are then placed on the hill-side aboveground.

I was once or twice in the wild mountain districts in the interior, at the time when the natives visited the tombs. Even the most retired parts had their visitors, and it was both pleasing and affecting to see the little groups assembled round the graves, paying the tribute of affection to those whose memory they revered and loved. The widow was seen kneeling by the grave of her lost husband; children, often very young, shedding tears of sorrow for a father or mother; and, sometimes, an old man whose hair was white with age, was there mourning the loss of those whom he had looked to as the support of his declining years. All were cutting the long grass and weeds which were growing round the tombs, and planting their favorite flowers to bloom and to decorate them.

I believe that the wealthy in these districts generally bury their dead, and some of them build very chaste and beautiful tombs. There are three or four very fine ones in the island of Chusan, where the paving in front of the mound which contains

the body is beautiful, and the carving elaborate; the whole of the stone-work is square, instead of circular as in the tombs in the south of China. Here, as at home—and I believe in every part of the world—trees of the pine-tribe are generally planted in the burying-grounds. Lord Jocelyn, in his "Campaign in China," mentions such places in the following beautiful and appropriate language:—"Here and there as if dropped at random upon the sides of the hills, were clumps of pine-trees, and peeping through their thick foliage, the roofs of houses and temples diversified the scene. Amongst many of the beautiful groves of trees which here invite the wanderer to repose, spots are selected as the resting-places of mortality; and gazing on those tranquil scenes, where the sweet clematis and fragrant flowers help to decorate the last home of man, the most careless eye cannot fail to mark the beauties of the grave."

The flowers which the Chinese plant on or among the tombs are simple and beautiful in their kind. No expensive camellias, moutans, or other of the finer ornaments of the garden are chosen for this purpose. Sometimes the conical mound of earth,—when the grave is of this kind,—is crowned with a large plant of fine, tall, waving grass; at Ningpo wild roses are planted, which soon spread themselves over the grave, and when their flowers expand in spring, cover it with a sheet of pure white. At Shanghai a pretty bulbous plant, a species of *Lycoris*, covers the graves in autumn with masses of brilliant purple. When I first discovered the *Anemone japonica*, it was in full flower amongst the graves of the natives, which are round the ramparts of Shanghai; it blooms in November, when other flowers have gone by, and is a most appropriate ornament to the last resting-places of the dead.

WHEAT-CROPS INCREASED BY AMMONIACAL MANURES.

ON a space of ground cultivated in 1843, by Mr. J. B. Lawes, of Rothamsted, England, which had not been manured, the yield per acre was 16½ bushels of wheat, and 1,116 lbs. of straw. This may be considered as the natural produce of the soil, subject only to the atmospheric influence of that particular season. The same space of ground was cultivated and manured for three consecutive years, with the following results:—

In 1844, the application of 560 lbs. of burnt bones and 220 lbs. of silicate of potass, produced 16 bushels of wheat and 1,112 lbs. of straw.

In 1845, 1½ cwt. each, of sulphate and muriate of ammonia, produced 31½ bushels of wheat and 4,266 lbs. of straw.

In 1846, 2 cwt. of sulphate of ammonia yielded 27½ bushels of wheat and 2,244 lbs. of straw.

In another experiment, a quantity of farm-yard manure was weighed into two portions, at the rate of 14 tons each per acre, one being burnt to ashes, and the other plowed into the soil; the product of the unburnt dung was 22 bushels of wheat and 1,476 lbs. of straw; and that of the ash, 16 bushels of wheat and 1,104 lbs. of straw.

Hence the absolute necessity of supplying nitrogen (the essential part of ammonia), to enable the soil to produce more wheat than it could do in a natural state.

CHOICE OF TREES AND SHRUBS FOR CITIES AND RURAL TOWNS.—No. 4.

Of all American trees that have been cultivated, either at home or abroad, there is no one of which so much has been said as the *Common Locust*. In the year 1823, an extraordinary excitement was produced in England concerning this tree, by William Cobbett, who resided in America from 1817 to 1819, and chiefly occupied himself in farming and gardening, on Long Island, near New York; and during that period, as he tells us in his "Woodlands," published in 1825 to 1828, he was convinced that nothing in the timber way could be of so great a benefit as the general cultivation of this tree. "Thus thinking," continues he, "I brought home a parcel of the seed with me in 1819, but I had no means of sowing it till 1823. I then began sowing it, but upon a very small scale. I sold the plants; and since that time I have sold altogether more than a million of them!" Elsewhere, in the same work, he more especially directed attention to this subject, urging, in his clear and forcible manner, the immense importance of this tree in ship-building; and he was the means of thousands of it being planted in various parts of Britain. The name of *locust*, as applied to this tree, before Cobbett's time, was but little known in England, and many persons, in consequence, thought it was a new tree. Cobbett had a large kitchen-garden behind his house at Kensington, which he converted into a nursery; and he also grew trees extensively on his farm at Barnes, in Surrey. Although hundreds of the *Robinia pseudacacia* stood unasked for in the British nurseries, the "locust plants," which every one believed could only be had genuine from Mr. Cobbett, could not be grown by him in sufficient quantities to supply the demand. He imported the seeds in tons; but when he fell short of the real American ones, he procured others, as well as young plants, from the London nurseries, and passed them off as his own raising or importation. Had the people of England known that locust-seeds and locust-plants were so easily to be obtained, it is probable that the locust-mania would never have attained the height it did. To show the folly, or the knavery of this extraordinary individual, I will quote the following from London's "Arboretum Britannicum," which should be preserved more as a literary curiosity rather than a historical record. "It is worthy of notice," says Loudon, "that Cobbett, apparently without ever having seen a hop-pole made of locust, boldly affirms that the tree is admirably adapted for that purpose; that trees from his nursery, after being four years planted on Lord Radnor's estate, at Coleshill, were 'fit for hop-poles, that will last in that capacity for twenty or thirty years at least,' that 'such poles are worth a shilling each (that is, nearly double what was at that time the price of good ash hop-poles); that 'five acres would thus, in five years, produce £529; and that 'each stump, left after the pole was cut down, would send up two or three poles for the next crop, which, being cut down in their turn, at the end of another five years, would, of course, produce two or three times the above sum!' that locust-wood is 'absolutely indestructible by the powers of earth, air, and water;' and that 'no man in America will pretend to say that he ever saw a bit of it in a decayed state.'

After this, it will not be wondered at that Cobbett should call the locust 'the tree of trees,' and that he should eulogize it in the following passage, which is so characteristic of the man, and so well exemplifies the kind of quackery in which he dealt, that we quote it entire:—'The time will come,' he observes, 'and it will not be very distant, when the locust-tree will be more common in England than the oak; when a man would be thought mad if he used anything but locust in the making of sills, posts, gates, joists, feet for rick-stands, stocks and axle-trees for wheels, hop-poles, pales, or for anything where there is liability to rot. This time will not be distant, seeing that the locust grows so fast. The next race of children but one, that is to say, those who will be born sixty years hence, will think that the locust-trees have always been the most numerous trees in England; and some curious writer of a century or two hence, will tell his readers that, wonderful as it may seem, 'the locust was introduced to a knowledge of it by William Cobbett.' What he will say of me besides, I do not know; but I know that he will say this of me. I enter upon this account, therefore, knowing that I am writing for centuries and centuries to come.'"

In America, the locust has been planted for ornament in great abundance about farm-houses, and along fences and avenues, for more than fifty years; and since the forests were in a measure destroyed by the axe or fire, by the European settlers, along the seaboard and navigable waters inland, many persons in the Middle and Eastern States have cultivated this tree with a view to profit, and have not only supplied timber and trenails to the shipwrights of the cities or commercial towns, but have exported large quantities to England and elsewhere. These plantations seldom exceed an area of thirty acres, notwithstanding the agricultural societies of several States have offered premiums for their encouragement. Though the *Robinia* had never been known to be injured by any insect, towards the end of the last century, in Massachusetts, it was generally attacked by the larvæ of the *Cossus robinia*, which gradually extended their ravages to the southernmost points where this tree has been propagated. In consequence of this discouragement, the locust has been but little cultivated for the last twenty years in any part of the United States, or in Canada, except for the purposes of ornament or shade. In a communication received by me from Mr. Stephen H. Smith, of Smithfield, in Rhode Island, dated on the 22d of November, 1844, he states that, in the winter of 1817, he cut from a lot a heavy growth of timber, principally chestnut. The soil on which it grew, is a rich loam, on a slightly tenacious subsoil. In the following spring, he set out in the same ground, at equal distance, about one hundred good-sized, yellow locust-trees to the acre. They kept pace with the natural growth of the forest that sprang up about them. In 1837, twenty years after, all the wood was again cut off the same lot, producing twenty cords to the acre, the locusts measuring at the stump from nine to twelve inches in diameter, each tree making three posts, seven feet long. The sprouts and offsets now occupy one-half the ground to the exclusion of a portion of the native timber.

* Arboretum Britannicum, pp 621 et 622

The borers have not assailed these trees at any time. It may be reasonable to conclude that the thick underwood has protected them from this enemy; as those standing near, in open, cultivated ground of like quality, have not escaped.

As an ornamental tree, the locust, with its light and elegant foliage, its sweetly perfumed flowers, its beautiful pendent form, often "feathering to the ground," will always be entitled to a place in our parks, lawns, and pleasure grounds; but, as Gilpin says, "its beauty is frail, and it is of all trees the least able to endure the blast. In some sheltered spot it may ornament a garden; but it is by no means qualified to adorn a country. Its wood is of so brittle a texture, especially when it is encumbered with a weight of foliage, that you can never depend upon its aid in filling up the part you wish. The branch you admire to-day may be demolished to-morrow. The misfortune is, the acacia is not one of those grand objects, like the oak, whose dignity is often increased by ruin. It depends on its beauty, rather than on its grandeur, which is a quality more liable to injury. I may add, however, in its favor, that, if it be easily injured, it repairs the injury more quickly than any other tree." It has also "the further disadvantage of coming late into leaf, and being among the very first to cast its foliage in autumn, and this without undergoing any change of color, or exhibiting those beautiful and mellow tints which enrich the landscape at this season of the year."*

The *Rose-flowering Locust* has sparingly been planted, as an ornamental tree, but less so than the preceding species, and as such, from its medium size, rapidity of growth, and its large, conspicuous roseate flowers, it well deserves a place in every collection. But, let it be remembered, that, like the common locust, its creeping roots are a great nuisance in all cultivated grounds, that its leaves and wood are attacked in a similar manner by insects, and that the tree itself is comparatively short-lived.

The *Honey-Locust*, or *Three-thorned Gleditschia*, has also been extensively cultivated as a hedge-plant, as well as a shade-tree, throughout the Atlantic States, from the banks of the Mohawk to those of the Savannah. For the last-named purposes, from its delicate, light-green foliage, which is rarely attacked by insects, and the beautifully varied, graceful, and picturesque forms it often assumes, with the singular features afforded by its large pods and spines, when sparingly planted in parks and other ornamental grounds, it holds a high rank. As a hedge-plant, however, or as a tree for shading crowded streets in town, it does not appear to be well adapted.—*Transactions of N. Y. State Agricultural Society.*

IMPORTANT FACT IN AGRICULTURE.—Whatever may be the nature of the soil, or of the crop cultivated, it should always be the aim of the farmer to grow full crops. Partial and sometimes extensive failures will even then but too often occur; but to neglect making the best known preparations, or only to prepare for half a crop, is an ill-judged notion, and has a direct tendency to unprofitable farming.

* *Trees of America*, pp. 203 and 208.

LETTERS FROM VIRGINIA.—No. 1.

It may not be unknown to you, nor to the great mass of your readers, that within a few years past, an unusual and extraordinary current of emigration has been setting from the Northern and Eastern States, in this direction. Heretofore, and up to a very recent period, the fertile valleys, virgin wilderness, and illimitable prairies of the West have exerted a magnetic influence upon the restless and enterprising sons of New England and New York; and leaving the "Old Thirteen" far in their rear, these hardy and indomitable pioneers of an advancing civilization have boldly fronted and successfully encountered obstacles which would have appalled less dauntless spirits and less sinewy frames, until the vast territory included between the Mississippi River and the Rocky Mountains has already become dotted with the abodes of industry and wealth. While this great "movement" of the age has been in progress, it has, comparatively speaking, drained the Atlantic frontier of those elements of its strength and greatness which originally constituted its patrimony, and by means of which it became what it was. Probably no one State in this older-settled portion of the Union affords a more striking example of this result than the "Ancient Dominion" of Virginia—the nursing mother of patriots, heroes, and statesmen—great in all the essential elements of individual, social, and political well being—rich in historical associations—with a soil abounding in all that could tempt or reward the agriculturist, the miner, the manufacturer—with advantages of position, equal, and in many respects superior to those of any of the confederated States; and during a long period, exercising, through her eminently gifted sons, a predominating influence over the fortune and destinies of the nation.

Her population has not only failed to keep pace with that of her more enterprising sisters, but her rich resources, mineral, agricultural, manufacturing, and mercantile, have been suffered to run to waste. Her fertile soil has been over-tasked in one portion and miserably neglected in another; her internal improvements have been, one after another, abandoned; her manufactures become dismantled, and her noble mountains, hills, valleys, and plains deserted.

At the termination of the revolution, in which her gallant sons played so conspicuous a part, her free white population amounted to 442,000 souls, while that of Pennsylvania was but 424,000, that of New York 314,000, and that of Massachusetts 373,000. In 1800, while Virginia could enumerate only 514,280, New York had advanced to 556,000, and Pennsylvania to 586,000. In 1810, New York had a population of 918,699; Pennsylvania of 786,804; while Virginia stood at 551,534. In 1820, New York had increased to 1,333,445; Ohio nearly to, and Pennsylvania to upwards of a million, while Virginia, already reduced to the rank of a fourth-rate State, numbered 603,337 only. Ten years later, New York numbered 1,868,000; Pennsylvania 1,309,900; and Virginia 694,300. In 1840, New York had considerably exceeded two millions. Pennsylvania and Ohio, each a million and a half, while Virginia had only attained to the comparatively meagre standard of 740,968. At the present time, while New York has *eight times* the

population with which she commenced an independent existence, and Pennsylvania has more than quadrupled her numbers, Virginia, with a territory more ample, and internal resources far superior to either, has failed even to double her population, and has fallen in this respect from the first to the fourth or fifth State in the Union.

To the practical statesman and political economist these facts present a most interesting problem for solution; and whatever may be the future destiny of this ancient commonwealth, the causes, proximate or remote, which have thus operated in paralysing her energies and crippling her advancement, should be faithfully and thoroughly investigated, and the results communicated for the benefit of all who feel an interest in the progress of civilization. My present intention is to speak of Virginia *as she is*; not as she *has been*, or *might have been*, under other and different circumstances from those in which she is now placed; and although I may find it necessary in the course of my remarks to institute a comparison between her present condition and that of those of her sister States who entered on their political career at the same time, and under far less favorable auspices, I trust I shall do so in a spirit of kindness, and with no desire to excite any other than the most friendly feelings of social and political rivalry, between portions of the same great and united family, bound together by the strongest ties of interest and mutual regard, travelling the same common road—partakers of the same common destiny—and enjoying the same noble inheritance.

A residence of less than a single year in this portion of the Union may seem inadequate to a fair comprehension and a just exposition of its condition; but it will be borne in mind that the first impressions are not unfrequently the best and most accurate; that an impartial and unprejudiced observer is not seldom in a condition to take a more comprehensive view and to form a better appreciation of events, their probable causes and effects, and the bearing which they may have on the present and future, than those more immediately interested in their occurrences, and actively participating in their results; and that the record of these impressions, and the frank, friendly, and at the same time dispassionate expression of views and opinions thus involuntarily imbibed and honestly entertained, while it cannot injure the cause of truth, may add somewhat to the stock of existing knowledge, and at all events, it is to be hoped, excite inquiry and reflection, even if it should fail to lead to more beneficial consequences.

I am free to confess, in the outset, that when, and as often as I reflect upon the genial, healthful, and lovely climate of Virginia, its transparent and cloudless skies, its refreshing breezes, its abundant and exhaustless foliage, its comparative exemption from wintry frosts and storms, its unrivalled facilities for markets, its fertile and varied soil, capable of producing nearly every species of crops demanded by the diversified wants of modern civilization, luxury, and refinement, and in quantities unsurpassed, at least, if not unequalled in any other portion of the Union—its inexhaustible mines of coal, iron, copper, and other valuable minerals and metals—its noble streams, bays, and harbors—its lofty range of mountains—and its territorial advantages,

with reference as well to the seat of the general government as to the adjoining States—when I take into consideration all these circumstances, I am utterly at a loss to account upon any satisfactory principles for the dearth of population, the comparative absence of capital and enterprise, the neglect, often amounting to absolute waste of the land, the cheap rate at which it is held, and more than all, the indifference with which, until very recently, the inducements thus held out to immigration from other States and countries have been regarded. It was not without an accurate and thorough knowledge of the condition and capabilities of this favored region, in an agricultural point of view, that her greatest son, the immortal WASHINGTON, in a letter to Sir John Sinclair, described it as “the Garden of America.” Nor was it without the spirit of prophecy that he added these memorable predictions: “Notwithstanding these obstacles [the embarrassments arising from defective naturalization laws, and the prevalence of slavery], and although I may incur the charge of partiality in hazarding such an opinion at this time, *I do not hesitate to pronounce that the lands on the waters of the Potomac, will, in a few years, be in greater demand, and in higher estimation, than in any other part of the United States.*” A NEW-YORKER.

LETTERS FROM THE SOUTH.—No. 11.

ONE word in passing before I proceed on my route. There is one source of economy that might be practised by many of our Southern planters, with little trouble or inconvenience to themselves, and with a large aggregate profit. The wool and pelts from sheep, and hides from cattle slaughtered on the plantation, are seldom saved through a large section of the county; when, if the wool were washed, sheared, and packed, and the skins properly dried, all would command a good market at the nearest shipping port. When the weather is cool, the hides will cure sufficiently by being suspended in a free circulation of air; or if hot, then rub salt, or a good coating of wood-ashes on the flesh-side, or roll them up in salt and forward to market.

From 5 to 20 head of cattle, and 20 to 100 sheep, are or should be annually slaughtered on every plantation, and the amount that might be thus saved, would support a good school in every well settled district in the country.

In Louisiana I found an enterprising Yankee from the old Key-stone State, buying up whatever wool there was to be sold among the planters, and when their hands were too busy to attend to shearing their flocks, he kindly lent a hand, sometimes taking half and sometimes the whole for the operation. These and other small items may seem inconsiderable in comparison with the cane and cotton crops, but when saved without expense, they are equally worthy attention to the amount of product.

The highly cultivated banks of the Mississippi, which extend from 60 miles below to nearly 200 above New Orleans, on both sides of the river, begin to hold but a divided empire with the original forest, some 40 or 50 miles below the mouth of Red River. This comes nearly up to latitude 31°, and approximates to the extreme northern limits to which the culture of the cane has hitherto attained.

A few plantations have been recently commenced on the latter river, with every prospect of success; but the low delta at its outlet and for a long distance both above and below, has hitherto kept its cultivation in check over an extensive space on the river banks.

The terms high and low land have altogether a local meaning in this region. The latter throughout the delta, includes only such as is so much subject to overflow as to be unfit for cultivation, while the former embraces all that by dykes and ditches may be kept from destructive inundation, much of it being some feet below the high flood of the river, or bayous. *Hill-land* (or occasionally *prairie*) is the term here used to designate all the elevations not exclusively of delta formation. This comes down to the river, as at Baton Rouge, Natchez, Vicksburg, Memphis, the Chickasaw Bluffs, and a few other points on the east; but on the west, it is seen only at Helena, just below the outlet of the St. Francis, in Arkansas, till we reach Commerce, in Missouri, a pretty hamlet of some half dozen houses, 1,200 miles above the Gulf. This whole region on the right bank of the river, extending in some cases (as in the intervening space between the Tensas and beyond, and much of that below Red River) to more than 70 miles due west of the river, is exclusively formed from the alluvion of the Mississippi; nor is it scarcely less extensive on the east, where it spreads beyond the Yazoo, and its tributaries for a considerable distance north and south, through more than an entire degree of longitude; so vast and so fertile a territory has been formed by the sole agency of the floods, within a comparatively recent period.

By far the largest portion of this country is wilderness, "untouched, magnificent wilderness." Including a wide range on either side of the river, probably not one acre in 500 is at this moment under good cultivation, through no inconsiderable part of the distance between Vicksburg and St. Genevieve, in Missouri; and though an occasional and sometimes a frequent clearing, indicates the presence of the settler, yet the agricultural treasures of this portion of the Mississippi valley have scarcely begun to be developed.

The wild fowl, geese, brant, ducks, the white and blue crane, the fish-hawk, the eagle (and sometimes the swan), in countless numbers, still occupy this their ancient domain in their appropriate seasons, and "the father of waters," in almost solitary grandeur, ceaselessly rolls on his turbid, restless flood to the Gulf.

Memphis is pleasantly situated on a bank, some 50 feet high, is regularly laid out, substantially and tastefully built up, enjoys a large trade, and is rapidly increasing. It is said to contain already about 10,000 people. Helena, just below the outlet of the St. Francis, in Arkansas, is also a flourishing, busy place, with about 5,000 inhabitants. There are numerous other sites with ambitious names, containing from half a dozen to twenty or thirty houses, many of which are doubtless the germs of future emporiums of trade, when the surrounding country shall have become settled.

Cairo, occupying the point of lowland at the junction of the Ohio, enjoys less trade and already more dilapidation than its ancient namesake. A

part of the embryo city is fenced in against the incursion of the floods, by a levee some 15 feet high, which is mostly used for corn and cabbage gardens. A long, dilapidated, unoccupied tavern, and some 20 or 30 indifferent buildings, make up the sum total of improvements. The hulk of an old steamboat, well fitted up, and moored to the bank, accommodates the passengers with a temporary resting place, between the exchanges from one boat to another, which makes up the leading business of this place. Thebes, on the east bank, some 30 miles above, is a county seat with a dozen houses. Its new and showy court-house stands on an elevated bluff, overlooking the river, and is densely surrounded with forest-trees, which it is presumed will be remorselessly levelled at the first leisure moment.

At Cape Girardeau, on the Missouri side, we first discover a high, projecting, rocky bank, though there are some minor specimens below. This is an ancient French settlement, and the present site of a showy Roman Catholic Asylum. There is a quarry here which yields small blocks of white marble. Blocks of immense size are furnished 55 miles below St. Louis, at the quarries in St. Genevieve, the oldest of the French towns in Missouri. Herculaneum, with its dozen rustic looking buildings, has been shorn of its temporary importance as a shipping port for the lead mines in the vicinity, and become an inland city from the alluvial deposit in front of its once accessible banks.

Much of the western, and some of the eastern bank of the river, for 150 miles below St. Louis, is bordered by frequent detached or continuous picturesque bluffs. They sometimes recede in graceful swells from the bank and are covered with trees to their tops, or they come boldly to the water's edge, and with their rocky bases, worn into a thousand fantastic shapes by ages of the downward currents, they seem to defy further encroachment from this ever-shifting stream. Castle-Rock, 100 miles below St. Louis, is a circular isolated precipice surrounded by the water, some 80 feet high by 50 diameter, presenting an expanding base and overhanging capital, surmounted by a dense tuft of luxuriant shrubs. The double face presented to us, has all the regularity of a work of art, and might well be mistaken for the relic of some by-gone age of Titans. A much larger quadrangular rock, a few rods inland from the opposite shore, was the legendary retreat of the exploring party under Lewis and Clarke, in their three years journey to the then unknown Oregon.

Extensive low-lands border the east bank of the river, similar to the delta below the Ohio. One of these, called the American bottom, opposite St. Louis, extends some 60 miles in length by 8 to 12 in width, and is of unsurpassed fertility; but as it is unhealthy and subject to overflow, little progress has yet been made in reclaiming and cultivating it. When our population becomes straitened for subsistence, as in Holland and elsewhere, millions of people will be crowded on to the lowlands of the Mississippi, which, by the aid of dykes and draining wheels, will be made to contribute in unstinted measure to the wants of the human race.

St. Louis is pleasantly situated on an elevated bank, is handsomely built, almost entirely of brick and stone, and is enjoying a large, prosperous, and

increasing trade. It is said to contain about 50,000 inhabitants. Here, at a distance of 1,400 miles from the Gulf of Mexico, is a new starting point for a further inland navigation to the north, of 1,000 miles by the Mississippi; to the west of 2,000 miles by the Missouri: to the northeast, 1,000 by the Wisconsin, and 400 by the Illinois; and to the east, 1,200 by the Ohio. Through all of these and their countless tributaries, is the mighty West continually pouring out its teeming products to the seaboard. Through the Mississippi alone, one only of the outlets of this valley, there will probably be transported to a market, more than \$100,000,000 in the surplus agricultural products of last season, and that not an abundant one. If such are the results of a single half century's enterprise, by the surplus progeny of a people numbering but little more than 3,000,000 at its commencement, what must be the results of future centuries of similar enterprise, with the accumulating ratio of our skill and population?

There are usually from 60 to 70 steamboats lying at St. Louis, destined to every accessible port. I took one, out of five or six, bound for the extreme limits of navigation on the Illinois. We had 100 passengers on board, including one bishop, one governor, sundry colonels, and some 50 returning volunteers, officers and privates. About one-half only of those enlisted in one of the Illinois regiments, will reach their homes in safety; while of those composing another from Mississippi, that I had before come in contact with, it is estimated that only one-third will again greet the home and the friends they left but a twelvemonth since; and many of these, from their association and habits, have become both morally and physically unfitted for any useful employment hereafter. Exposure, disease, dissipation, and Mexican weapons have scattered the bones of the remainder from the Mississippi to Cierro Gordo. Such are a part, and a small part only, of the evils of a war, unnecessarily undertaken, in the middle of the nineteenth century, by a nation claiming a pre-eminence in civilization!

Our route was to the mouth of the Missouri, 20 miles, where we took a final leave of the muddy waters that mar the beauty of the stream, the whole distance to the Gulf; thence past Alton 5 miles above, a thriving place of 4 or 5,000 people; thence 20 miles further, when we shot out of the main stream into the Illinois. Here one finds a miniature Mississippi, especially at its lower extremity; while higher up, its numerous bluffs now approaching and now receding from the banks, remind one of the bolder scenery between its mouth and the Ohio. The banks, which are generally from 6 to 12 feet above low water, are frequently overflowed through a great part of their course. They descend from the edge of the river to lowland, or swamps, in their rear, evidently marking this valley as a deltal formation. The conformation of the remote or primitive banks of this river, and those of the Aux-Plaines, one of its principal tributaries, which flows within 8 miles of Lake Michigan, indicate conclusively that they formerly discharged a vastly larger body of water than they now contain. It is conjectured, and with a good deal of probability, that they were once the outlet of one or more of the large northern lakes, and possibly those of

Michigan, Huron, and Superior. If this were the case, we can conceive of no adequate cause short of the upheaval of the western shore of Lake Michigan, which should have sent the waters that formerly met the Atlantic at Cape Sable, in latitude 25° through the Gulf of St. Lawrence, that communicates with the ocean at its northern outlet in 52°.

Most of the banks of the Illinois are densely wooded; but after ascending about 100 miles above its mouth, the prairies frequently come down to the edge of the water. Peoria is beautifully situated on one of these, 200 miles from the outlet of the river, whose rolling bank, ascending inland, rises 20 feet above the water, which here expands to a tiny lake. The town of Henry, a few miles above and on the same western bank, is similarly situated, but on a higher bank, and the prairie stretches off 60 miles towards the Mississippi.

There are numerous small thriving towns along this stream, which are already the depôts for immense quantities of corn, wheat, flour, pork, beef, &c., &c. Some 15 or 20 small steamboats are employed with the traffic and passengers on this river, besides scows and flat-boats that are used in freighting the produce. Two of the latter, each capable of carrying 1,000 barrels of flour, were loading at Hennepin, some 300 miles above St. Louis. There are numerous steam-saw and flouring-mills on the banks, by which lumber and grain are largely manufactured, the latter only to any extent for exportation.

From Peru to Chicago, 100 miles, our course was over fertile and undulating prairies, most of which, though unoccupied a dozen years ago, are now under cultivation and thickly studded with tasteful villages. The canal, destined to link the waters of Lake Michigan with the Mississippi, is substantially built, 60 feet in width by 6 in depth, and will be ready for use in the course of the coming season.

The crops, owing to the long continued cold weather, were very indifferent, with the exception of grass, oats, and spring-wheat. Much of the fall-wheat had been winter-killed, and the fields were occupied by spring-grains. A large portion of these prairies afford an uncertain return of winter-grain, and the quality is much below the highest standard of good wheat. There is frequently a difference of 5 to 10 cents per bushel in the market price of wheat raised in the prairies and adjoining woodlands. This difference in value and the uncertainty of the crop, has induced many of the new settlers to resort to the wooded country further north; and I found much of the forest in Wisconsin, adjoining Lake Michigan, heretofore passed by for the sake of more easily reclaimed lands, has been purchased within a twelvemonth, and is now rapidly assuming the condition of cultivated farms. The fertile counties of Washington, Sheboygan, and Manitowoc, in the latter Territory, are fast filling up with enterprising and intelligent settlers; and lying on the lake, with thriving ports for the shipment of their products, they are soon destined to contain a dense and prosperous agricultural population.

Chicago, Milwaukee, and all the towns on the western shore of Michigan, are rapidly improving, and give substantial evidence, in their increase and improvements, of their future destiny.

The wheat-crop in southwestern Michigan looked

better than any I had before seen, but further eastward seemed much injured by the worm and fly. Other crops promised well considering the lateness of the season. The State of Michigan seems to be in a healthy, flourishing condition, and bids fair soon to rival her elder sisters in wealth and improvements.

The crops through Ohio, so far as I could learn from personal observation and reports from intelligent farmers, give promise of a medium yield. This is also true of that portion of western and middle New York, and that portion of New England through which I passed in my circuitous route to this city.

R. L. ALLEN.

New York, July 14th, 1847.

PREMIUM FARM-TRUCK.

HAVING long been of the opinion that a vehicle was much needed by the farmers of our country, to use in the place of the stone-boat or drag, and the common ox-cart, for many uses, I was at last induced to try my skill in getting up something that would meet their demand, combining strength, utility, convenience, economy, durability, and easy draft, knowing that these all are, or ought to be, matters of moment to the farmer. When I had

completed and thoroughly tested my new truck, I congratulated myself on my more than anticipated success; and after repeated trials for all the various purposes for which it was designed, such as carting small stone for underdraining, large ones for wall-fence, manure, hay from the meadow to the stack, or hay-barn, stumps, saw-logs, &c., &c., all to my perfect satisfaction, I was so much pleased with it, that I determined to take the rude thing to our County Fair, where I was awarded a liberal premium for the plan. Having since used it more than any other vehicle on the farm, and finding it indispensable, and just the article needed, and knowing no better means of making the farmers generally acquainted with it than through the medium of your paper, I have taken the liberty of sending the following description and drawings, from which you may, if you please, favor us with engravings the more clearly to illustrate it.

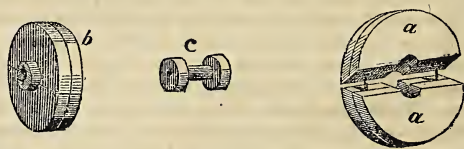


Fig. 72.

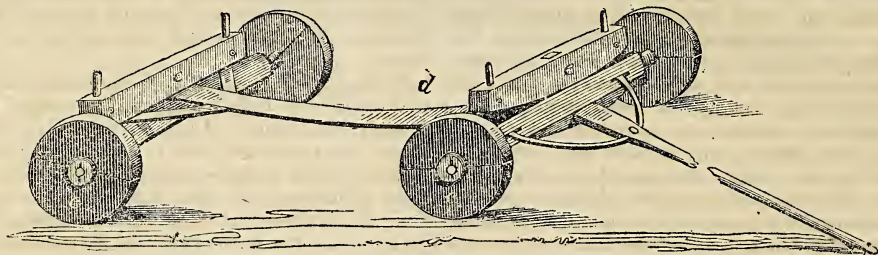


Fig. 73.

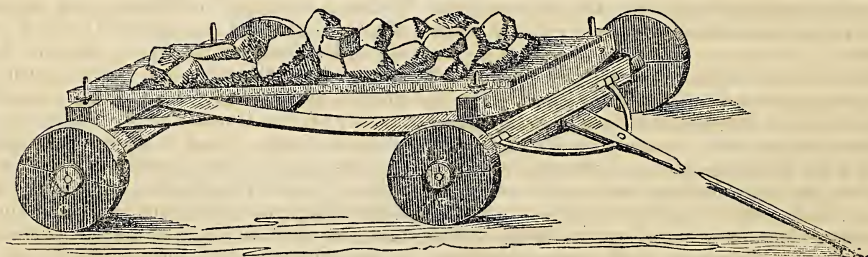


Fig. 74.

EXPLANATION OF THE ABOVE CUTS.

- | | |
|---|--------------------|
| a, Plank for wheel in two pieces with dowels. | d, Perch or reach. |
| b, Wheel perfectly put together. | e, Bolsters. |
| c, Cast-iron pipe-box to receive the arm of the axle. | f, Platform. |

For axles I used joists sawed for axles to the common lumber-wagon, sawed $3\frac{1}{2}$ by $5\frac{1}{2}$ inches, and 6 feet long, with wide steel-skane on the bottom of the arm, and an iron one on the top. The wheels, I built of 6 pieces of $1\frac{1}{2}$ inch plank, the width being the semi-diameter of the wheel, which is sixteen inches high. The bolsters are sufficiently high for the forward wheel to cramp entirely under until it strikes the reach, or perch, the front end of

which is let in the full size into the bottom of the front bolsters, being made of a 2 by 4 inch joist. The back end of the bolster, as well as the braces, which are of the same sized joists as the reach, are halved into the bolster and axle equally, and fastened by two bolts passing entirely through the bolster, each brace, and the axle, which is all the iron-work there is about the hind axle, except the skanes on the arm. The iron-work about the

front axle is a T plate about 14 inches on the bottom of the bolster, and running back about 22 inches on the bottom of the perch. A king-bolt and a strong guard receiving the king-bolt in the underside of the axle, and curving up gradually so as to allow the axle to cramp, are then attached to the perch by the back-bolt of the T plate. The irons for the tongue or pole are made the same as the ordinary way of ironing roller-poles. The wheels are built by bolting, with six bolts in each, the six pieces of plank being fitted upon the cast-iron pipe-box, which is cast in the form of a spool with projecting sand-bands, all cast in one piece.

The platform, or bottom, on which stone, manure, &c., are drawn, is composed of four strong, loose planks. The side-boards are also portable, being attached to the stakes by leather loops nailed on the outside of the board.

The entire cost of the truck is about \$20. Should I build another, I would use but two pieces of plank $4\frac{1}{2}$ inches thick, for the wheels which I would dowel together and use a band-iron-tire, dispensing with the bolts, which would make the cost about the same. Farmers wishing to build after my plan, can obtain the boxes by applying to me at the Dutchess Agricultural Institute, Poughkeepsie, Dutchess County, N. Y. JOHN WILKINSON.

REVIEW OF THE MAY NUMBER OF THE AGRICULTURIST.

"THE complaint is often made, that our paper being printed at the North or East, is not adapted to the wants of the South and West," &c., is the old oft told excuse for not taking any paper, however well it may be adapted to the wants of those who make this an excuse. But such persons are not blamable, for the reason that they do not know what the paper contains. There are thousands who would become subscribers to this paper, if they could be induced to read one number. How they are to be induced is the only question. And it is an important one, since it is undoubtedly conceded that agricultural publications within a few years past have been the means of promoting a great improvement in agriculture wherever they have been read. Perhaps the best method would be, if suitable persons could be employed to travel constantly and make known by public addresses, the advantages that might be acquired if they would only read. The objection against the plan of publication would then soon give way. In fact, where you hear this objection *most* their local papers are *least* supported.

Quantity of Corn per Acre.—I wish every skeptic upon the subject of raising 100 bushels of corn to the acre, would carefully measure the ground and count the ears upon some garden patches of corn during the present summer, and they can be convinced how easy it is to raise 100 bushels of corn to the acre, upon land with the soil of garden-mould and a similar cultivation.

New York Farmers' Club.—One of the most interesting subjects mentioned at this meeting, is the silk-grass, or Florida hemp. This article has often been noticed; but yet, notwithstanding its adaptability to the manufacture of many fabrics, it is slow in coming into use. If Mr. Jones, or any other southern gentlemen who have the ability, would prepare a few tons and send it to New York

for sale, I have no doubt it would open a new branch of trade for all the South. It is said that this plant, when prepared like hemp, produces the strongest of all vegetable fibres. Several of the family of aloes afford strong fibre, and I have no doubt might be very profitably substituted for hemp. In Mexico, the *Agave americana* is extensively used for cordage. The "Spanish bayonet," and "bear-grass" (which latter I believe is a local name for the *Yucca filamentosa*), have both been strongly recommended by Gov. Call of Florida. The Spanish bayonet is said to afford a fibre quite silky in appearance. Two or three crops of the *Yucca filamentosa* can be cut in one season; and the roots are of such a saponaceous quality, that it is often made use of in washing woollens.

New York State Agricultural Society.—"We invite attention to the Premium List, of this Society, published in the present number of our paper." From this am I to understand that you invite criticism upon the fitness of premiums, as well as the length of the list and magnitude of the sum total? If so, I have a word to say. Where is the fitness of the premiums on farm-buildings? Twenty dollars are offered "for the best design, accompanied with plans, elevation, and cost of construction, combining economy, convenience, and good taste," for a farm-house, I conclude. Now I only profess to possess the ability in a limited degree, to compete for this premium; and yet I should feel that I was degrading the little talent that I do possess, if I should undertake to perform the amount of labor required, for such a paltry consideration. I could give it freely; but I would not contract to labor for such a contemptible reward; particularly when my next neighbor might get half that amount for the plan of a hog-pen. And to make the thing still more contemptible, "*competitors must pay their own postage.*" It was a very narrow mind that conceived this little flimsy bit piece of economy.

The \$150 offered in premiums on cheese-dairies, should have been entitled "Reward to those who are able to own 20 cows, to enable them to exclude all of their poorer neighbors from participating in the benefits of the State Agricultural Society." Ditto of butter-dairies.

Where is the fitness of excluding boys under 16 years of age from the premiums for training three-year old steers? And still more, where is the fitness of the premiums offered to such boys as well as those younger, for training younger steers? Not one in a hundred that would compete for the first premiums will ever read them. Ditto of the third. How much more fitting a premium would it have been, to give the lad a Daguerreotype of himself and steers! How many thousands while looking at it, would be told with proud exultation, "that is a premium of the New York State Agricultural Society, which I obtained in 1847."

I have no objection to book-premiums; but there should be some fitness of the books to the taste of those who are to receive them. There is none in offering such books to plow-boys, or knitters of stockings, spinners of linen thread, or weavers of rag-carpets. The whole list seems to me to be the same old stereotype of former years. Cannot new subjects be discovered more worthy of encouragement, than who can stuff the most lard-oil into a

pig-skin, or make the biggest *bull* without being an Irishman?

The great fault of all the premiums is, they are too paltry. Look at their offers for experiments on soiling cattle, and experiments on the value of manure, "to be continued through three crops." And the whole of "\$20 is offered for the most satisfactory agricultural experiment." I might point out many of equal insignificance. I do this in no spirit of cavilling; but I certainly think the subject is worthy of inquiry whether the manner proposed is the most judicious way of expending "upwards of \$3,000 in cash." [We think our correspondent a little snappish in his comments above, but shall make no other reply than this; if the society had more funds at its command it would be more liberal.]

Preservation and Application of Manures.—One of the first things that strikes my attention in this article would be a good subject to offer a premium upon. Give a premium to every farmer, or a large premium to that town or city which would most universally adopt the method here pointed out for saving a most valuable manure, and thereby preventing a most abominable nuisance.

Culture of Peach-Trees.—The writer of this article speaks warmly upon his feelings at reading the questions of an amateur, and the practical answers given by the editor in the January No. of this volume upon a kindred subject. I only speak of this now to call the attention, as I have before, of readers and writers, to this very excellent manner of farming communications into questions, so that the editor or correspondents can give plain, short, practical answers. W. D. gives such a plain, short recipe (after a rather lengthy preface), to prevent injury from the peach-tree worm, that I extract it. Here it is. "Clear away the dirt, scrape the bark clean, dig out the 'varmint,' and cut off his head." No mistake about the value of the remedy. It is effectual, but not quite cheap enough to induce "Amateur" to re-engage in the business. The recipe of "W. D." is equally effective in the cure of the yellows. "Dig up and burn every root and branch"—no danger of contagion then. The recommendation to sow buckwheat in the peach-orchard on bearing years, I like very much; and it is new to me, although I have frequently seen it, but did not know the object. I should think, however, that wherever it was practicable to turn in hogs, that way of saving the buckwheat would be the most preferable.

Letters from the South, No. 7.—This is another exceedingly interesting letter. But I have a little fault to find with it. The writer is not careful enough to make all his statements plain and explicit. For instance, in speaking of the steamboat landing and wharves on Lake Ponchartrain, he goes right on to say, "the centre wharf which is over half a mile in length, by 5 or 600 feet wide, &c., &c., conveys an idea to those who are unacquainted with the facts, that this wharf is on the lake instead of the river. Facts mentioned in this letter confirm the opinion previously advanced in relation to the fearful subject of confining this great stream within artificial banks. While writing this article my eye rests upon a paragraph in a late paper relating a break in the levee opposite the city of New Orleans. Mr. Allen says, "it is a question which

the future only can solve, how far this artificial restraint of the waters will affect the character of the stream." With me it is not a question of futurity. It is a question that must be agitated now and boldly met. Mr. A. speaks of "Creoles" as descendants from the French, Spanish, Germans, and Americans. A very prevalent error exists in regard to the term "Creole." A great many intelligent persons suppose them to be mixed with African blood. The true meaning of the term Creole (from the Spanish word *Criollo*), is "a name given to the descendants of whites, born in Mexico, South America, and the West Indies, in whom the European blood has been unmixed with other races." I differ from Mr. A. in his opinion that "he may not longer take up the columns of the Agriculturist with a subject not purely agricultural." What subject can be more interesting to the readers of this paper than descriptions of an agricultural country—its rivers, roads, harbors, improvements, and commercial cities and markets for produce?

Cochin-China Fowls.—Glad to hear you say "in advance" that you cannot import any. Hope everybody else will say the same. Though they might be useful to dig up a new clearing among the roots: They are whoppers—that's a fact. Only look at their feet!

To Destroy Weeds in Gravel-Walks.—Capital recipe that. But it is well enough to remark to those who have not "the eggs to boil for breakfast," that it won't make the least difference in the world, provided that they faithfully follow the rest of the direction—the weeds shall surely die.

Ladies' Department.—Something about the kitchen. Ah! I recollect I burnt my fingers in this department not long since. I shall not do it this time.

And I dare not enter the "Boys' Department," for fear of that big dog. So I will go on and glean a little.

Foreign Agricultural News.—"Value of night-soil." If the city of Paris derives a revenue of \$200,000 per annum, how much might New York derive, if the city authorities would provide every place with the drawers and disinfecting agents spoken of in another part of this article?

Liquid Malt and Hops.—If this article could be made in this country it appears to me that it might well be, as people will drink the product, and with this extract many in the country would make a more wholesome drink than coffee, even if it was *soda-coffee*, which would be still more healthy if the coffee part was all left out.

Editor's Table.—"Crops of the United States for 1846." Here is a table that gives upwards of nine hundred and ten millions of bushels as the crop of oats, rice, barley, rye, wheat, and Indian corn, the product of the last year. This, to a population of twenty millions, is about forty-five bushels to each man, woman, and child, besides buckwheat, beans, peas, potatoes, and other roots. It is truly an enormous supply. Well may we feed the starving out of such a surplus. Though it will be inquired whether it is possible that we do actually raise this enormous quantity of human food, besides butter, cheese, meat, fruit, and sugar, in other enormous quantities. Let us stop and contemplate.

REVIEWER.

PRESERVATION OF THE GRAPE.

LAST winter I sent a communication on this subject to the New York Agricultural Association, which was read before that body by Dr. D. P. Gardner, and seemed to excite not a little interest. In February, I showed some grapes to Dr. G. which were perfectly sound, though ripened under very unfavorable circumstances, and which had been left on the vine until they were *frozen as hard as bullets*. Some of these grapes I kept until May, when the last of them suddenly disappeared down the throat of a friend.

As the grape-season is near at hand, a description of my method of preserving this most luscious fruit may not, perhaps, prove uninteresting to many of your readers, and will, no doubt, be appreciated by some of them at least. The process is so simple that few words are necessary to describe it, and it will be easily comprehended by all. I first take a common *unglazed* flower-pot, and place over the hole in the bottom a small clam-shell (or a piece of broken pot), with the convex side down, to drain off surplus water. I then pour in clean, white sand, to the depth of about an inch; next I select a bunch of ripe grapes, perfectly sound, and firmly attached to the peduncle. These I hold in the pot in such a position as that they do not touch its sides, and then fill it up with sand, covering the grapes about an inch and a half deep. This being done, I set the pot aside in a room of a temperature of from 40° to 50° or 60°F., and water it about once a week, or as often as it becomes dry, with a watering-pot having a finely-pierced rose attached to it.

This comprises the whole process, and I think you will admit that it is very simple. I can assure you that it answers the end proposed; at least, it has done so with me for the last six or seven years. If it were not so, I should not think of hazarding my reputation by recommending it in this public way, and over my own name. That all will succeed who attempt to preserve the grape in this manner, I do not expect; but that the great majority will, I firmly believe, because there is no reason why they should not, if they follow the directions above given. At all events, Mr. Editor, I am anxious that the process should have a fair trial; and there are few lovers of the grape who will begrudge a few bunches for the sake of making the experiment. I have succeeded in preserving the grape by other means, but the above method seems to be the most certain and economical. I will here state that finely-pulverized charcoal may be used instead of the sand with great advantage, but it is not so readily procured, and is much more expensive, though, in fact, the cost of either is comparatively insignificant compared with the important purpose to which they are to be applied.

The above process I believe to be new; it certainly is so to me. In the debates on the preservation of the grape, &c., which have taken place from time to time before the N. Y. Farmers' Club and elsewhere, no allusion, to the best of my knowledge, has been made to any method nearly resembling the above; and if any person who took part in those debates was in possession of any such process, he was assuredly under obligations to make it known.

I will just add that the pots may be larger or

smaller, and that one or more bunches may be put in each pot, according to circumstances. When the grapes are to be eaten, the sand must be washed off in clean water. I have said nothing in regard to the principles upon which the process is based, as these will be understood by the generality of readers.

PETER B. MEAD.

New York, Sept. 5, 1847.

FRUIT-MIRACLES.

In the Horticulturist of the present month, we have a notice of a peach-tree in the garden of Mr. Willis, at Portland, Maine, that bore a crop last year of perfect peaches, and this season is covered with nectarines. Here is a greater miracle than Boston can boast of. There, the Boston nectarine was raised by Mr. Lewis, from a peach-stone. On Saturday last, Mr. Bush presented to our Horticultural Society, a large, perfect, and beautiful plum, which he assured us was raised by him from the stone of an apricot planted in a pot and carefully tended till it bore fruit. Mr. Bush is a well known and reputable gardener in our vicinity, and his integrity of character for truth will be vouched for, by all who know him. I as firmly believe this transmutation, as I do the Boston and Portland miracles. I will mention two others that came under my own observation, in the truth of which I have equal reliance, and the first far surpasses the Boston nectarine miracle, and the evidence of its truth stronger. Mr. Jones, Consul at Mexico, sent me three apricot-stones, which I cracked, and carefully planted in mould from my garden, in a small garden-pot of a triangular form, placed in a hot-bed. In a few days there came up, similarly located, three forest-trees, which I transplanted into larger pots, and in a few weeks into the open ground, where they were kept until six or eight feet high; and I was assured they were trees not known in this region. No apricot-trees appeared, and could not be expected; for it would be too much to expect, even in the land of witchcraft, to have both forest and fruit-trees from the same kind of stones.

The other miracle was at the vineyard of one of my tenants, a Mr. Amen. There was in his vineyard a grape-vine that had for many years produced abundant crops of white grapes, and a following season, the same vine bore an abundant crop of black, as well as white grapes. Mr. Amen was a man of truth, but fortunately, the fact did not, as was the case in the Boston nectarine, and my forest-tree miracles, depend on the word of a single individual. All the horticulturists for miles around saw for themselves, and vouched for the fact. Candor, however, compels me to admit, that, in this case, I examined the plant, and recollected that it was a Schuylkill muscadel (a black grape), on which, at my request, Mr. Amen had grafted a white grape, and the black fruit was produced on a shoot from the muscadel stock, which he recollected when I reminded him of it.

N. LONGWORTH.

Cincinnati, August 12th, 1847.

HOW TO PREPARE ANCHOVY-SAUCE.—Take three or four anchovies, chopped fine; butter three or four ounces; water two ounces; vinegar two table-spoonfuls; flour one table-spoonful; and stir over the fire until it thickens; then rub it through a coarse hair-sieve. May be used on meat or fish.

GRANGER'S AIR-TIGHT BRICK-OVEN COOKING-STOVE.

Economy of fuel, to say nothing of that of cooking, is an important consideration with the farmer. In nearly all farm-houses of modern construction, the large old-fashioned fire-place is done away with, and a cooking-range of brick, or a stove is substituted. By means of these a great saving is effected in fire-wood, the labor of cooking is lessened, and it is done with much more ease and comfort to the inmates of the house.

Among ranges the difference is trifling; not so with cooking-stoves. In this department of mechanics, ingenuity for the past few years seems to have taxed its utmost efforts in attempts at what is termed improvements. Some of them have proved useful, but the greater part upon trial are found to be more complex and fanciful than utilitarian.

When we were at the late State Agricultural Society Show, at Saratoga, our attention was drawn to the cooking-stove of Mr. R. D. Granger, of Albany, denoted by the adjoining cut.

The improvement in this stove, which differs so materially from all others, is this. The inside of the oven, front, back, and bottom of the stove, is lined with a non-conductor of heat, similar in its operation to ordinary brick-work, which absorbs the moisture arising from the articles baking, keeping a dry oven, and giving an even, perfect, and steady heat, permitting the bread to rise gradually without first crusting it. The oven being free from moisture by absorption, the bread comes out light and sweet as from a brick oven. So perfectly does this stove resemble the brick-oven, that when once heated up, all the fire may be taken out of the stove, and bread be baked perfectly by the heat retained in the brick.

Thus the inventor has combined with a cast-iron stove a decided improvement, and one, too, that has long been sought; that is, an oven to bake equal to an old fashioned brick-oven.

There is another great advantage in the construction of this stove, viz. its direct draft from the fire *right under* the oven as well as over it; thus first applying the heat to the bottom of the oven, which causes the bread to rise, and at the same time thoroughly crusts the bottom, whereas in stoves which first carry the fire to the top of the oven before it reaches the bottom, the bread will crust on the top before it is sufficiently done through, which prevents the loaf from rising, and causes it to be heavy—the top being crusted hard, and the bottom not sufficiently baked.

Many years have been devoted in bringing this stove to its present state of perfection. A few were manufactured during the past year, and put in use, in order that any defects might be remedied; and they have given perfect satisfaction, both for wood and coal; and we commend the stove to the public with

the fullest confidence that it will perform all, and even more than is claimed.

This stove is made of various sizes, and some variation of form, and is arranged for either wood or coal. In the form of the cut it is preferable for coal. Mr. Granger has another stove embracing the same improvements, viz. direct draft and brick oven, which is more peculiarly fitted for burning

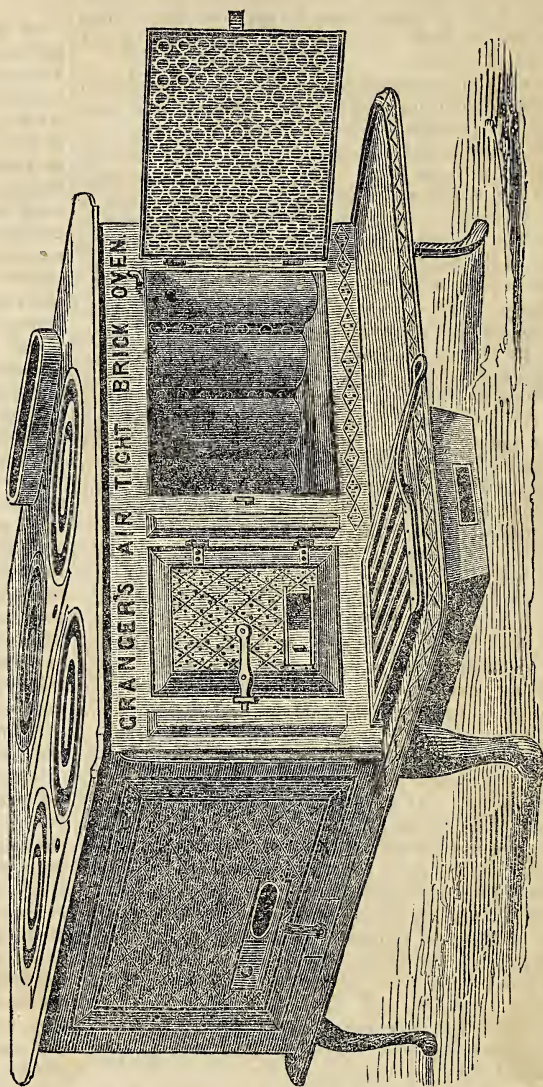


Fig. 75.

wood, though it burns coal admirably. A cut with description of that stove, called the "Iron-Witch," will be given next month.

THE POTATO DISEASE.—Curl, blister, frost-bites, ripening, flagging, sudden blight, scab, rust, mere debility, and even scalding, have been described as disease. Many of these affections, which are as old as the potato itself, occur locally every year, and are of no general importance.—*Dr. Lindley in London Gardeners' Chronicle.*

CHOICE VARIETIES OF APPLES.

SUMMER-PEARMAIN.—This variety, according to Landreth, is unquestionably the finest of its season, possessing more of the character of the pear than any ordinary apple. Its appearance is by no means prepossessing, and those who look to exteriors only would pass it by unnoticed. The color is usually dull-red, slightly streaked and spotted and occasionally of a brighter hue when grown in the sun. Coxé says it has proved to be well adapted to light lands, and correctly describes it as “singularly tender, bursting from its own weight, when falling.” The outline, in most cases, is oblong and uniformly regular, with a deeply-seated calyx and stem.

LADY-APPLE.—This little apple, which is known by the French under the names of *Pomme d'Api*, *Rouge*, and *Petit Api*, from its productiveness, exquisite beauty, and fine quality, is worthy of a place in every orchard. It is highly prized, wherever quality, rather than bulk is considered, and readily finds a sale in all our markets. Its outline is flat, and its

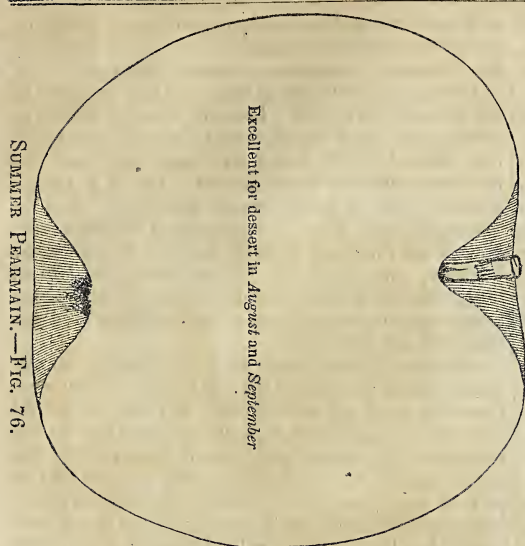
color, when ripened in the sun, is of a lively yellow, with a bright carmine cheek. The flesh is white and crisp, juicy, and agreeably sprightly.

HAGLOE.—This apple, Landreth says, “is unquestionably not the *Hagloe-Crab* of the English, a cider-apple of high repute, to which, it is believed, this has no pretension.” It is said that Coxé, himself, who first described it under that name, discovered the error, and designed correcting the mistake in a future edition of his work. It is now well known in Pennsylvania and New Jersey, simply as the “Hagloe,” and is much esteemed as an apple for cooking. Its fair size, above medium, and great beauty, recommend it for the table. Its prevailing color is yellow, streaked with red of darker or lighter shades, and, on well ripened specimens, with a delicate bloom, when grown in the sun. The outline, in general, is round, sometimes a little irregular; the stem short, with the eye deeply seated. The flesh is liable to be soft and woolly, as it is termed, which detracts from its quality for the desert.

CRANBERRY-CULTURE.

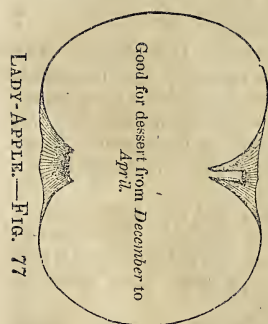
WE are not aware of a single instance of success in the cultivation of the cranberry without a thick coating of sand (not a mixture of sand and loam) was first spread over the surface. Six inches is the depth that has been recommended in this paper, and we are entirely satisfied that it is more frequently too little than too much. If the bottom be a deep mud, with only six inches of sand on the surface, the bog at the end of the year will be in a better condition to cultivate grass than cranberries. The sand will sink into the mud, and become to some extent mixed with it. The surface will be condensed and warmed by the operation, and the grasses cannot be kept out without injuring or destroying the cranberry-vines.

The art of raising the cranberry consists in selecting a soil that is always damp, and if flowed with water in the winter and spring, it is the better. The soil must be loose and barren, so that the cranberry-vines will, without any cultivation, overcome and root out the few weeds and



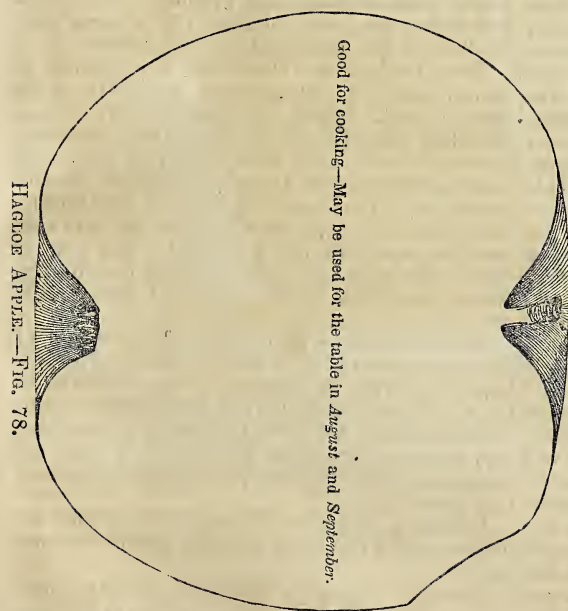
SUMMER PEARMAIN.—FIG. 76.

Excellent for dessert in August and September



LADY-APPLE.—FIG. 77.

Good for dessert from December to April.



HAGLOE APPLE.—FIG. 78.

Good for cooking—May be used for the table in August and September.

grasses that may spring up. If the soil is fertile, grass and weeds will obtain possession of the soil, and they can be kept out only by incurring an expense which the crop will never repay.

We have seen accounts in the newspapers of the cranberry being cultivated successfully on the uplands, but we do not believe much of the stories that are told. On damp barren sands the cranberry, in this country, is as certain as any cultivated crop; but on other soils it is precarious and uncertain, and will not repay the labor in cultivation.—*Yarmouth (Mass.) Register*.

Can any of our correspondents inform us whether the cranberry-plant has been made to bear an abundance of fruit on lands that are not moist or overflowed with water a portion of the year?

SEVENTH ANNUAL SHOW

OF THE

New York State Agricultural Society.

This great show and farmers' festival came off at Saratoga, on the 14th, 15th, and 16th of September. During most of the week preceding and up to Tuesday, it rained more or less every day. This untoward weather unquestionably kept back some things which otherwise would have been exhibited, and it probably had an influence in the number of people present on the occasion. But Tuesday night the clouds were dispelled, and during Wednesday and Thursday, the principal show-days, the weather was truly magnificent.

Show-Ground.—This was admirably chosen, and comprised twenty-three acres, on the top of the rising ground just beyond the famous Congress Spring, about a quarter of a mile north of the centre of the village. The ground was fenced in with a high, tight board-fence. Inside of this a suitable space was set apart for horses and cattle all round; next to this was the carriage-drive; and next, spaces and pens for stock again; so that those passing round in carriages and on horseback could obtain an excellent view of all the animals present. We think this arrangement an improvement over that of locating the carriage-road close inside the fence, and hope it may be followed at all future shows.

Entering the show-ground, the first thing which attracted attention, was a large tent on the right, about 120 feet in breadth by 180 in length. This was the Floral Hall, and was devoted to fruits and flowers. Some 200 feet in the rear of this stood the Domestic Hall, 60 by 150 feet. The numerous pillars of this building were festooned with evergreens, which lent to its architecture a highly tasteful and rural appearance. To the left of this the Society's great tent was pitched, covering seats enough for 3,000 people. Here the annual speech was delivered and the reports of the various committees read on Thursday afternoon. Still further to the left of this was the Mechanics' Hall, 60 by 180 feet, filled with stoves, carriages, tools of various kinds, and farm-implements. In the rear of the great tent, 200 feet distance or so, was the Farmers' Hall, a commodious building, set apart for dairy-products. Aside from these, several small tents were pitched, for the accommodation of the committees, and various other purposes. With the ample grounds, and tents, and buildings, the reader

will perceive that the accommodations for the show were very commodious, and reflect great credit on the Saratoga Committee, who got them up.

Horses.—Of these there were 166 entries, most of which were very good. Tornado, bred by Robert L. Stevens, got by Eclipse, out of Polly Hopkins, and now farmed by Mr. Long, of Cambridge, took the first prize among blood-horses. He is a superb animal, and attracted much attention. Besides thorough-breds, there were several of the celebrated New York roadsters present, a stock of horses, by the way, unrivalled for general purposes. Then there was the ambitious pony-horse of the Morgan breed, together with large, strong animals bred exclusively for the farm.

Cattle.—Of these, there were 203 entries, an unusually small number for the State show. They were generally good of their kind. Several of the fat oxen were magnificent, and though only four to six years old, they would weigh from 2000 to 3000 lbs. each. Mr. Wadsworth of Genesee showed eleven pair of fat three-year-old steers, which for size, fineness of form, and early maturity, have never been excelled. They were grade Durhams. Mr. Elon Sheldon, of Cayuga, exhibited three superb pair of working oxen; and Mr. Halsey, of Tompkins, a superior pair of fat, red cattle.

Sheep.—Of these, there were 166 entries. The Merinos and Saxons were tolerably well represented. Of South-downs and long-wools, we never saw so few. Major Reybold, of Delaware, had two specimens of his New-Oxfords on the ground. They are of the long-wooled varieties, and weighed upwards of 330 lbs. each.

Swine.—We regret to say that the show of swine was very inferior, less than 30 in all. With the exception of a few Berkshires and the improved white English hog, we saw nothing more than those of the ordinary farm kind.

Poultry.—A meagre display enough. Some pretty good Dorkings and Polands, however, together with the beautiful small China geese from the flock of Mr. Mesier, of Dutchess county.

Farm-Implements.—These were as numerous as at any show we have visited, and of a much superior kind. Indeed, this was the only department that was satisfactorily represented at Saratoga. Among the new things most worthy of notice was a hemp-breaker from Kentucky, which we thought very highly of, and a mowing-machine from Buffalo. The latter is the only one of the kind we have ever seen that we think will work well. The price is \$100. We also saw some excellent iron hurdle-fences, an account of which we shall give hereafter.

Dairy-Products.—There were about enough of these to have served up at the dinner tables at one sitting of the hotels, at Saratoga. Why there was so little butter and cheese we can hardly divine. But if the specimens were few, the quality of them was very choice—finer butter we never saw; and the cheese, especially the pine-apple specimens, deserved high praise.

Vegetables, Fruits, and Flowers.—A very good exhibition of the two latter so far as quality was concerned.

Domestic Fabrics.—Flannels, hosiery, bedspreads, yarn, &c., &c., were displayed in gay pro-

fusion, and as usual attracted much attention on the part of the fair sex.

Trial of Plows and Plowing-Match.—We have done making any record of these as at present conducted, other than to say, that whatever attention is bestowed upon them, is just so much time and money thrown away, so far as the good of the public is concerned.

The Address.—The late Hon. Silas Wright was appointed to deliver the address, but his sudden and lamented death a few weeks previous to the show prevented this. Yet with his accustomed punctuality in the fulfilment of all public duties, he had finished writing it the day before he died. His widow furnished the President of the Society with a copy, and the same was read by Mr. Dix. The ceremony of doing this was quite imposing, and came off at one o'clock, P. M. A high platform was raised underneath and at the head of the great tent on which Mr. Wright's bust was placed, by the side of which stood the eloquent reader, and around him to the right and left, were seated the officers of the Society, together with a large number of distinguished citizens of this and the neighboring States. The space below was crowded by about 4,000 spectators. The address was written with much ability, and in the strong compact style of its distinguished author. Previous to the commencement of its reading, Mr. Dix delivered a brief and touching eulogy of the lamented deceased. After the reading was finished, Mr. John A. King, of Long Island, moved a resolution, requesting the widow of Mr. Wright, to allow the Society to retain the manuscript of the address to be placed among its archives in their rooms at Albany. Following this, he spoke of our untimely loss with great eloquence and feeling, drawing tears from the eyes of nearly all present. Mr. L. F. Allen, of Black Rock, next introduced a resolution, that the Society should prepare a brief memoir of Mr. Wright, and that the same shall be printed in the next annual volume of their Transactions. To this he added some excellent remarks on the subject in question, which were received with commendation.

The awards of the several Committees, or Judges, were next read, together with their reports, when the Society adjourned to the annual meeting at Albany, in January next.

Amount of Money Received.—As near as could be ascertained when we left the ground, this would amount to about \$3,700, at least \$600 short of last year's receipts, and probably \$2,300 short of what they would have been had the show been held at Troy, to which place it ought in justice to have gone. The number of spectators present were variously estimated. We think they could not have been less than 30,000.

Upon the whole, the show passed off delightfully, and has no doubt greatly conducted to the benefit of the agriculture of the State. To say nothing of the advantage to the farmers of seeing so many choice animals and products of various kinds, the bare assemblage of so many directly interested in agriculture, and the opportunity of exchanging ideas with each other on the subjects which all have so much at heart, cannot but be productive of much good. Implements and stock to the amount of several

thousands of dollars were sold during the three days of the show.

Quite a number of distinguished persons were present from our own and the neighboring States. Among these, we noticed Ex-Presidents Van Buren and Tyler, Governor Young, the Judges of our Courts, Members of the Legislature, and others too numerous to mention. Several delegates were there also from various Agricultural and Horticultural Societies.

Aside from the opportunity all had of tasting of the far-famed medicinal waters of Saratoga, there were a great variety of amusements for the people at large—such as the exhibition of General Tom Thumb, the menagerie, &c. So far as we have heard, the hotel-keepers did their duty, and all were well supplied with beds and a good table, at the regular charges fixed upon and advertised beforehand. The railroad agents did their best to forward all passengers, stock, and implements, and were highly accommodating and urbane in all their movements. We cannot but express our thanks to them, as well as the gentlemanly captains of the superb steam-boats, the Columbia and Empire, which run the night line from Troy to this city.

SHORT-HORN STOCK.—We recently saw a fine three-fourth bred heifer, only 18 months old, and exclusively grass-fed, for which her owner told us he had been offered *fifty dollars* by a butcher. We conceive this to be a fair test of the comparative value of improved and unimproved stock. How many native grass-fed cattle would bring half this price at this age? And how long will it take our farmers to understand their true interest, by engrafting the improvements of eminent breeders upon their own herds?

BEAN-HARVEST.—There is no necessity of waiting until beans are ripe enough to shell out before you harvest them.

From experience and observation we are satisfied that if you pull them when the bean gets moderately hard and the leaves become yellow, and then stack them up loosely by putting two or three stakes up so as to keep them in place, they will ripen perfectly, be full as hard, plump, and heavy, as if suffered to stand longer in the field, and perhaps get touched with the frost.

A nip of "Old Jack's" teeth is death to beans, and they had better be secured before he comes sneaking around in the night. It is not much matter how the stack is formed if it only allows them to lie lightly, so that the air can draw through them. In this position they may remain until sufficiently dry to thrash.—*Exchange Paper.*

EXTRACTS FROM THE FARMERS' CREED.—We believe in small farms and thorough cultivation.

We believe in large crops which leave the land better than they found it.

We believe in going to the bottom of things, and therefore in deep plowing.

We believe that the best fertility of the soil is the spirit of industry, enterprise, and intelligence; without this, lime, marl, plaster, bones, and green manures will be of little use.

PROFESSOR NORTON'S LETTERS.—No. 7.

AMONG the regrets which I feel in the prospect of leaving Holland in the course of a few days, none are more prominent than those which refer to the practical systems of cultivation. My chemical occupations have been so engrossing that these matters have of necessity been much neglected. I do not, however, think there is much here that it would be advantageous for us to copy; but there is much that is both instructive and curious.

I lately devoted a day to an examination of the sandy *Dunes*, or shifting sand-hills, which form so great a portion of the Dutch, Flemish, and northern French coasts. These sand-hills are in some instances several hundred feet in height, and the belt which they constitute between the cultivated land and the sea, is sometimes several miles in width. Their material is a very pure, fine, white sand, blown up from the sea-shore into this irregular series of hills. They are a defence to the coast, and those parts of it which are furnished with these bulwarks need no dykes. But while they are a defence from the sea, they at the same time cause, or formerly caused much damage on land. The winds which had brought up the particles from the shore, found them even more accessible in their new position, and raising them again into the air commenced their transportation further inland.

The march of these shifting sands was by no means slow, and a single gale often made most perceptible changes in the cultivated fields. In order to obviate this evil, a peculiar reedy plant (*Arundo arenaria*), has been sown with much care upon these hills. I believe that this is not the only kind which is employed, but it is said to be much the most common. It is one of those plants which derive sufficient sustenance even from these barren sands. In some places it seemed to have been sown regularly in drills, but for the most part it was irregularly distributed in tufts, like the bent-grass, which sometimes infests our poorly manured meadows. These tufts are upon the very summits of these barren hills, and both by their shelter and the interlacing of their roots, prevent the sand from drifting. I am told that it dies down to the ground every autumn, but that the roots sprout again in the spring, so that it is not necessary to sow it each year. I think it probable that this plant derives much of its inorganic part from the sea-breezes, which are highly charged with saline matters during strong winds and gales. Cases have been known where at such times a saline crust has been deposited upon plants many miles inland. It would be interesting to analyse the *Arundo arenaria* with a view to this inquiry.

I was greatly surprised to see potatoes planted, in many of the hollows among these sand-hills, and apparently quite flourishing. In our hot and dry climate they would be dried up in a few days, but here, where the sun is comparatively little seen, and where there is so much rain, they do much better. The crop obtained is not large, but the potatoes are of a remarkably excellent quality. They are sold at a higher price than any others under the name of *sand-potatoes*. They are of a very small size, but remarkably fine flavored and mealy. These must no doubt derive a great portion of their inor-

ganic constituents from the sea. The saline substances deposited on the hills in heavy rains, are of course washed down into the valleys, thus making them a trifle more productive than the higher situations.

Standing upon the top of one of these Dunes, the scene is one of singular desolation. As far as the eye can reach are huge rolling waves of sand, like a sea during a heavy gale, suddenly converted into sand. The land which is under cultivation inside the Dunes is also of a light, sandy character for a considerable distance, but I did not observe that any peculiar system of cultivation was pursued.

Sandy land is found at intervals as far as Utrecht; after passing this place and proceeding by Railway towards Arnheim, it becomes more and more abundant, and yet poorer in quality, and at last we come upon a broad, desolate heath, or moor, which stretches away towards the north, probably nearly 200 miles, with few interruptions. As yet, little comparatively has been done towards its subjugation and cultivation; but I should think from a hasty view much might be done. Where trees have been planted, they look flourishing, and are of good size. Rye seems to be the most important crop in this section, and I presume that they follow the old system of cropping with rye until the land will not bear the seed, and then permitting it to rest for a few years. We are not accustomed to think of such a tract as this existing in one of the most densely populated parts of Europe, which has so often been the battle-field of contending armies, a very small part of the labor and treasure expended by which to destroy each other, would have converted it into a garden.

JOHN P. NORTON

Utrecht, Netherlands, June 15th, 1847.

SOUTH-WESTERN AGRICULTURE.

THE planter not blinded by prejudice or the ways of his father, will certainly receive any light that may be thrown on the subject of the cultivation of any staple article. I cannot at this day give any "new light" of my own, but I can offer the result of experience—the opinions of others, who are either unwilling to see their names in print, or are reluctant to stem the tide of popular opinion. The general impression is, that all crops should be cultivated often, the earth kept fine and light, and "no weeds or grass should be suffered to grow." Other opinions have been advanced by workmen, and facts adduced; and as an interested man, I claim of others equally interested, a right to express mine.

Two years ago, two of my friends, whom I will designate as Capt. B. and Col. D., living not over 20 miles from me, rented a field for the culture of cotton. The field was planted with cotton, divided as near as need be into equal parts, and cultivated as each one was in the habit of cultivating, to wit:—Capt. B. kept his crop clean all the year, probably working it over every ten or fifteen days, and it was cultivated like a garden. Col. D., on the contrary, did not scrape his portion out, until it was like the crop that "cousin Sally Dillard" was concerned with—"right smartly in the grass." About a month after, he killed lots and cords of grass and weeds, and never got into it, but to slay and to murder. The result—Col. D. made nearly double the

crop,—admitted by both parties, and several intelligent friends.

Again, a friend of mine, whom I will call G., almost invariably leads off in the selling time; yet he has generally grass enough to make good feed for “lean kine.” He is certainly later cleaning off his crop than any of us, and has more grass to kill, murder, and smother, yet none of us on rich or poor land exceed him in the income.

Again, another friend, W., who has long since been numbered with the dead, objected strenuously to cleaning out his crop often, declaring that it always “threw it back”—stunted it.

Yet there are others who have opposite opinions. And I give the opinions of intelligent and trustworthy gentlemen, regardless whether they agree with me or not. I am not orthodox, nor do I hope there is a solitary man simple enough to follow me. My object is, to ferret out the best plan, not caring whether science or tom-foolery gives the principles. There are those who object to frequent culture, and especially to late culture, on the ground that cotton grows too long, grows too fast, and after each plowing, that it sheds a vast number of squares. They say that the plow cuts the root, which checks the growth for one, two, or three days, owing to moisture; that an increased number of roots are thrown out, and the cotton commences a rapid growth, throwing off the small fruit, blooms, and squares. Is this so, or not, brother observing planters? Again, it is said that earth can be too light for cotton; that it grows slower it is true on firm earth, but that it fruits better and casts finer forms and squares.

No one can deny but that the yield per acre is getting less and less; yet we cultivate cleaner, if not better, every year. Is this owing to the age of our land? But does not the same land produce more corn? Once more; does not land planted with oats and fed off to stock, produce more cotton for one or two years than before? Is this product owing to the vegetable matter turned in, as we have believed, or is it due in part to the consolidation of the land? No crop-bearing land keeps so firm as that of the oat-crop. These are no trivial questions, and ought to be solved by experiment.

I give a few facts here, and leave them before the intelligent and practical planter. My corn-crops have increased yearly, since 1839; my cotton-crops have dwindled from 2,400 lbs. in 1834, down to about 12 or 1500 in 1845. Up to 1840, my fields were fed off every fall and winter by stock. Since then, no stock, comparatively, have been admitted. In the fall and winter of 1845, I covered the earth in a part of my orchard with rye straw, badly threshed, with the view of protection from heavy rains, and to get rye on the land to plow in, in the following spring. The cotton was no better; the corn this year is the best on those poor places that I have had on them for ten years. My rich, low-ground field, is good for 40 to 50 bushels of corn per acre, and is as light and mellow as when I grasped it from nature; yet my cotton-crops have not in four or five years been up to one bale per acre. One of my friends has similar land, that does not make cotton, yet 50 to 70 bushels of corn have been gathered.

I know full well that cotton vegetates readier,

grows off earlier, and more rapidly, when the earth is pulverized fine; but whether it will continue so to do, is another matter. I am also informed, that some lands across the big pond require tramping to give a fair crop. Yet it does not follow that the same practice which would be best on an upland hard soil, as my east field, would be the best for my west field; therefore we need more accuracy than a mere statement of facts. We need the whole truth, and we cannot get at it without a survey and correct analyses. So far as this farm is concerned, I am satisfied no one routine will do for one year.

My west field is barely above overflow, a portion of it being overflowed yearly, though of growth indicative of rich land. When I came here, it was covered with cane some thirty feet high. The soil is dark (not black), very light and mellow. It does not bake, nor is it ever hard—and it produces corn magnificently, but, as I said above, it does not produce cotton. The coming winter I intend to admit stock on it, and endeavor to break it up early.

My east field is thin hickory-flats, with some post-oak growing on the sides of the natural drains from the upland level. This land I intend to drain with secret ditches, plow deep, turn under the leaves, pea-vines, and stalks. I will try to cultivate often, but use a surface-tool, either of the horse-hoe family, or the cultivator. I think my low ground is too loose a soil to grow cotton well, and that there is no real need for deep plowing; but to turn under out of the way, the stalk, &c., I must plow tolerably deep, and if I could get to the clay, to mix with the soil, I might do much good.

From the fact that our water is too hard to wash with, I judge we must have lime enough in the soil, and more than this, cotton and corn-stalks that will measure three or more inches, rot in the soil ere a year rolls round.

If the top of the earth be merely scraped, or stirred, so as to break the hard crust that forms on it, I do not consider there would be any disadvantage—the roots are not cut, and the tool would tend to consolidate the earth.

I have endeavored to keep my crops clean, and although I would make less thereby, I shall continue the plan; but I am not satisfied that it is the best for a large yield, being willing to admit that two or three workings, and laying by early, have in former years made more cotton. I mean, made a greater yield per acre from the same description of land, not from the same field, as the age might cause the difference.

M. W. PHILIPS.

Edwards Depôt, Miss., June 2, 1847.

TO EXTINGUISH CHIMNEYS ON FIRE.—First shut the doors and windows of the room containing the fire; stop up the flue of the chimney with a piece of wet carpet or blanket; and then throw a little water or common salt on the fire. By this means the draft of the chimney will be checked, and the burning soot will soon be extinguished for want of air. If every fire-place were provided with a damper, or shutter of tin-plate, or sheet-iron, fitting sufficiently tight to stop the draft fires in chimneys would become of little consequence, as it would only be necessary to apply this damper to put them out.

PLAN OF A SHEEP-BARN.

THE following is a description of a sheep-barn by Richard Morgan, of Aurora, Cayuga county, N. Y., as published in Morrell's American Shepherd:—

I have adopted the plan of bringing *all* of the buildings upon the farm into one compact body instead of being scattered promiscuously over the farm. You will discover that I have drawn four sheep-barns in connexion with each other, a description of one of which will answer for all. Sheep-barn No. 1 is a building *fifty* feet in length by *twenty* in width, with *fifteen-foot* posts, the first room or sheep-room to be six feet and a half in height from the bottom of the sill to the floor. A tight floor over head to keep out all dust and seed. The sheep are to be on the ground, it being better than a floor of wood. A pen three feet high, and to contain a space equal to five or six feet square, to be placed as shown by the letter P. on the ground-plan for receiving the hay when pitched from the mow that the sheep may not trample upon it, and for holding the surplus hay that may be pitched from the mow.

A rack for hay, grain, and roots, to extend entirely around the barn, excepting at the doors; one door opening into the interior yard and one into the outer yard. The outer yard, which the sheep are to go into, for their daily exercise, extends around the barns upon three sides, to be subdivided into small yards for the accommodation of each flock; to be enclosed by a fence five or six feet high, close boarded; the division fences are each to have a gate near the barn for passing with a team, as the barns are to be filled with hay from that side; yards No. 1 and 4 are thirty-five feet by fifty; Nos. 2 and 3 are thirty-five by eighty-five feet. The mow is sufficient for twelve or fourteen tons of hay each. The sheds, if built all at a time, may be divided by a fence between flocks, and the mow may be left all in one.

Each sheep-barn gives room for one hundred sheep; fifteen inches of rack for each sheep; sufficient room for all to lie down in, without being too much crowded; the room should be well *ventilated* by funnels running up through the roof, or by windows near the upper floor, with blinds, or slats. The barn I believe to be a good size for one hundred sheep, but those who are willing to add two or three feet more in width, in order to give an alley between the sides of the barn and racks, would find it convenient and profitable;—but with the size given there would not be sufficient room. I will give you a description of the barn and carriage-room attached. The barn, carriage-house, and stable, occupy thirty-five by one hundred feet; K, is a granary for oats; J, is a bay for oats in the sheaf; a cellar under both for roots, with stairs at S, to enter the cellar, to be closed by a trap-door, to be hung with hinges; I, is threshing floor; G, a bay for hay; H, is a stable for four cows or

oxen; a passage-way leads from the stable into the barn floor; a small door opens out of the stable into the yard; a small door also, from the threshing floor, with large door in front for driving in with hay and grain; the whole occupies forty-four feet of the building; F, is a covered road-way into the yard, twelve feet in width; D, is a grain room for the horses; C, is the horse-stable with five stalls, racks for hay and grain, &c.: B, is an alley, for mixing feed, enclosed tight to keep dust and dirt out of the wagon-room; O, is stairs leading into the hay-mow; A, is carriage-room, a deposit for farm-implements, &c. A tight floor covers the carriage-room and stable, leaving the room nine feet in the clear. At N, stairs lead into a room for *storing wool*. Let a room of sufficient size be partitioned off in the loft, and be made tight against rats, mice, and dust, lighted by a window in the end of the barn. Let there be a window or door at each end of the mow for filling the same with hay. When the sheep are to be shorn let them be housed in sheep-barn No. 1; let the wagon and tool-room

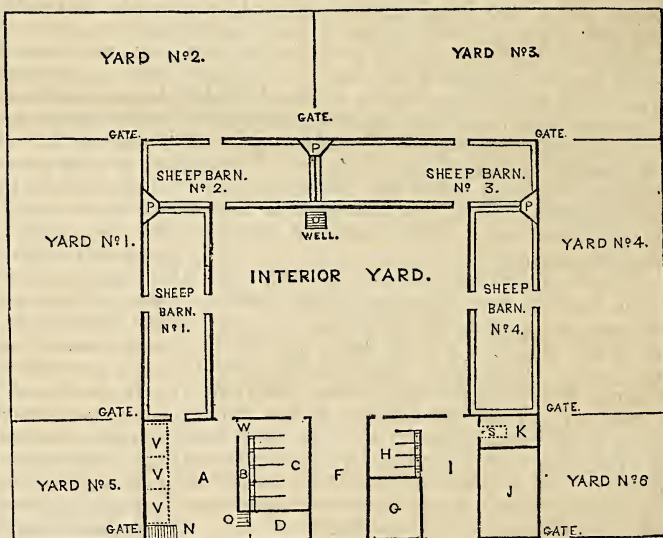


FIG. 79.

be cleared out for the purpose, and be used for a shearing room; V, V, V, are tables, or leaves made smooth, and to be hung with hinges to the side of the room near the floor, to be used for shearing upon, eight and a half feet wide; when not in use to be fastened back against the side of the room, taking up but two inches of the room; the roller to place his table in such a place near the stairs, that he may throw the fleece, when tied up, directly into the wool-loft; let there be a trap-door in the wool-loft for sacking the wool. The sheep, when fleeced, may be turned into the interior yard. If the barns cannot be supplied with water by pipes, let a well be dug as shown in the yard. Yard No. 5 would answer a good purpose for fowls, and yard No. 6 for the hog-pen, or if needed, erect a shelter, and keep the bucks safe from the other sheep, or such other purpose as may be most convenient. The interior yard is fifty by sixty feet, and may be used for young cattle. I should

have given the height of the barn and carriage-house, which is eighteen feet posts. The expense of erecting one sheep-barn would be about \$150. The expense of erecting all of the buildings would be about eight or ten hundred dollars, depending entirely upon the price of lumber, and of labor.

MODE OF RENOVATING APPLE-ORCHARDS.

I CAME in possession last spring of a bearing apple-orchard, are just such as many parts of the face of New Jersey is blessed with. It bore the unerring marks of almost total neglect. The heads of the trees were a perfect mat of moss-covered, stunted branches, with an abundance of sprouts shooting up at the base of the trees, presenting the most unsightly and slovenly appearance that it is possible to imagine. My first efforts were directed to pruning, which I did thoroughly and effectually, at least to my own satisfaction. My next object was to spade and dig away the tough, hide-bound sward for about six feet in diameter from around the body of each tree, and with saw and axe, to clear away all sprouts. With the spade, I scraped the old loose bark off the trunk of the trees, and then with a sharp-pointed knife and a piece of flexible, sharp-pointed wire, I dug out the great enemy of the apple-tree, the *borer*. I then threw around each tree nearly half a bushel of unleached wood-ashes, and afterwards dug in around them a coat of good barn-yard manure, covered about six inches thick, and secured from the drying influence of the sun, with road-washings, which, by the by, is *great stuff* for trees. This is what I have already done, and I need not say my orchard looks vastly different.

It is my intention to wash the trunks of the trees with strong soap-suds, plow up all the land, and lime it with oyster-shell lime. Then you may possibly hear from me again, and probably yet taste the effects of my plan.

W. D.

Morristown, N. J., Aug., 1847.

LONG ISLAND LANDS.—No. 1.

LONG ISLAND, which forms the southeastern portion of the State of New York, extends from Fort Hamilton, at the Narrows, to Montauk Point, a distance of about 140 miles. Its breadth, as far east as Greenport, a distance of about one hundred miles, varies from 12 to 20 miles, beyond which it is much less. The whole island embraces an area of 960,000 acres, or 1,500 square miles.

A ridge, or chain of hills, commonly known as the "Green-Mountains," or "Back-bone" of the island, commences at New Utrecht, in the county of Kings, and extends with occasional interruptions and depressions, to Oyster-Pond Point, in the county of Suffolk. A branch of this ridge diverges from Smithtown, and continues along the south branch of the island to Montauk Point. Some of these hills, which are usually of a round-backed form, without any approximation to regularity, often present, within a short distance, elevations and depressions of one hundred feet, and in some instances approach an elevation of three or four hundred feet above the level of the sea. Among these hills there frequently occur bowl-shaped hollows, in which water collects, and for the want of a ready outlet, is form-

ed into marshes, "pond-holes," or small crystalline lakes.

The surface of the island north of the dividing ridge is generally rough and broken, with the exception of the necks and points of land which stretch into the Sound. These, for the most part, are level or undulating in their surface, and comprise some of the best farms the island affords. Southward of the back-bone, or ridge, the surface is even, and slopes almost insensibly to the eye from the hills to the ocean. On both sides of the island are numerous streams, fed from springs emerging from the higher hills, which, after subserving the purposes of irrigating the soil, or turning mills, discharge themselves into the bays or Sound.

Along the south side of the island is an inland bay, about 70 miles in length and from two to five miles wide, in and adjoining which are extensive tracts of salt-marsh and islands of meadow, that annually produce immense crops of grass. The beach that separates this bay from the ocean is composed almost entirely of sand, which in some places is drifted into hillocks of fantastic shapes, while in others it is low, flat, and scarcely rising above the level of the tide. This beach, at some points, is nearly half a mile in width; and, like almost the entire south shore of Long Island, produces but little vegetation except here and there a few straggling cedars, or a clump of beach-plums (*Prunus maritima*), to diversify the scene.

The northern part of the island, including the dividing ridge, is well supplied with thrifty and growing wood, identical with that of the adjacent forests on the main-land; but in travelling from Jamaica to Farmingdale, on the railroad, we pass through a vast tract of land, estimated to contain 17,000 acres, commonly known by the name of "Hempstead Plains," which, save now and then a cultivated spot, presents neither shrub nor tree, with the exception of a few scrub-oaks, three or four feet high, and occasionally a patch of stagger-bush, or kill-calf (*Andromeda mariana*), to relieve the eye. The latter is so called, from a popular notion that it produces in lambs and calves which feed upon it, in the spring or early summer, the disease called the *staggers*; but its injurious qualities are doubted by many, and even those who believe in its poisonous effects in the spring, admit that it may be eaten with impunity later in the season.

These plains, or prairies, it would seem, have remained in a similar condition as at present beyond the memory of man, and have ever attracted attention as a great natural curiosity from the first discovery of the country. From an exceedingly rare work, published in 1670, entitled "A Brief Description of New York, formerly called New Netherlands, with the places thereunto adjoining," by Daniel Denton, we extract the following:—

"Towards the middle of Long-Island, lyeth a plain sixteen miles long and four broad, upon which plain grows very fine grass, that makes exceeding good Hay, and is very good pasture for sheep or other Cattel; where you shall find neither stick nor stone to hinder the Horse heels, or endanger them in their Races, and once a year the best Horses in the Island are brought hither to try their swiftness, and the swiftest rewarded with a silver Cup, two being Annually procured for that purpose. There

are two or three other small plains of about a mile square, which are no small benefit to those Towns which enjoy them." The grass above referred to, was doubtless the forked beard-grass (*Andropogon furcatus*), also sometimes called Indian grass, which is common in many parts of the United States, particularly where the soil is sandy, and is sparingly produced on these plains at the present day. We have seen specimens of it growing there of a height of four or five feet, and have been informed, that, in its green, succulent state, it is eagerly sought after by cattle, and affords a nourishing bite. From the circumstance that it will grow upon the poorer class of soils, and being a tender, juicy plant, of a rapid growth, its culture is worthy of a trial for soiling cows.

The Rev. A. Burnaby, who travelled through the Middle Colonies in 1759, describes these prairies as "between twenty and thirty miles long, and four or five broad;" and says there was not a tree then growing upon them, "and it is asserted," says he, "that there never were any."

In progressing eastward from these plains to near the head of Peconic Bay, a vast tract of land is passed through, principally overgrown with bear or scrub-oak (*Quercus ilicifolia*), dwarf chestnut-oak (*Quercus prinus chinquapin*), and black or pitch-pine (*Pinus rigida*). The former abounds in the Middle and Northern States, and is usually found in particular districts where the soil is very thin, growing in compact masses, which are traversed with difficulty, though no higher than the waist. It does not ordinarily exceed a height of three or four feet; but in favorable situations, where the soil is more deep and fertile, it frequently attains double these dimensions. It is seldom found insulated, or mingled with other trees or shrubs in a dense forest; but generally in tracts of many hundred acres in extent, which it covers almost exclusively, its uniformity being broken only by a few specimens of low whortle-berries, dwarf chestnut-oaks, and scrubby pitch-pines. Its presence, heretofore, has been considered as a sure indication of a barren soil, composed of dry sand commingled with gravel, and incapable of profitable culture. More recent observations and experiments, however, have proved this to be incorrect, as some of the best lands the island affords, in the towns of Southold and River-Head, produce this shrub of a larger growth, and even in places where it grows no more than two or three feet high, crops have been raised with a remunerating profit.

In our next number we propose to give an account of the geology of the island, with some observations on the formation and chemical nature of its soils.

COST OF LIGHT.

Your quaint and amusing friend Reviewer expresses a wish, that somebody would give you a table, showing the most economical light at given prices of tallow, lard, oil, and other substances. I have collected a few facts, and submit them as an approach to the desired information.

Having some knowledge of the mechanical or carcel-lamp much used in the city of New York,

* See Notes to Gowans' edition of Denton, by Furman.

and the well known Argand lamp, they are adapted as the basis of comparison. Assuming the mean intensity of light for seven hours emitted by the mechanical lamp as 100—the ratio by the Argand is 85; as, however, the light of the mechanical lamp, though intense, is fluctuating and flickering, we will fall back on the Argand and take it as our standard, say 100—then by experiment, the following table has been constructed.

	No. to a Pound.	Duration of a Candle.	Weight in Grains.	Grains consumed per hour.	Proportion of Light.	Candles equal to one Argand.
Mould candles...	10	5 h. 9 min.	682	132	12 $\frac{1}{2}$	5.7
Dipped candles...	10	4 " 36 "	672	150	13	5.25
Mould do	8	6 " 31 "	856	132	10 $\frac{1}{2}$	6.6
do do	6	7 " 2 $\frac{1}{2}$ "	1160	163	14 $\frac{1}{2}$	5.0
do do	4	9 " 36 "	1707	186	20 $\frac{1}{2}$	3.5
Argand oil-flame.				512	69	

From the foregoing table it will be seen that five mould candles of six to the pound are equivalent to the light of an Argand lamp; but a good Argand lamp consumes per hour, in oil, about one-seventh the weight of tallow in candles of six to the pound; hence it appears that about two pounds of oil are equivalent to three pounds of tallow candles, the cost of each depending on the market of the day, which every inquirer can readily ascertain.

Though a youngster, I take pleasure in such researches, and if Reviewer wishes for the comparison between tallow, stearine, wax, &c., I can readily produce them.

C. D.

MANAGEMENT OF HONEY-BEES.—No. 13.

THAT way of managing old stocks, which produces the greatest number of swarms, must in the end be the most profitable.

Now, by *supering*, in Mr. Allen's plan, we get but one good swarm at the end of the season, even allowing his plan to operate well. So also we get but one swarm on the principle of *driving* from the old to a new hive, as it is generally done, or I may say *always* done. My mode produces two good swarms from the old stock the first season; or rather one prime swarm and the old stock itself regenerated by being divested of half its old comb, which enables the bees to prosper for a few years, nearly as well as natural swarms.

I manage thus. As soon as the drones show themselves in any one of my hives, I prepare a clean, empty hive with a piece of comb containing the young bees, to form an *artificial* swarm as before described. If the old stock is well filled with bees, or as full as may be expected during the early part of the swarming season, on a pleasant morning I invert the old hive upon a table or bench, and quickly place the new hive, with the piece of comb attached upon it. I then wind a cloth around the junction of the two hives to exclude the light, and with a small rod, I rap the sides of the old hive about ten or fifteen minutes, at which time I suppose that half the bees are driven up into the new hive. This is just what I want. I then remove the new hive to the location of the old one, which

at once gathers all the straggling bees. The old hive is now half depopulated, and the combs are quite bare at the ends near the mouth of the hive. I then cut out about half of the comb, and lay it around in some convenient place for the bees to depast at leisure. This operation must be done with a dexterous hand, and with such implements as I shall hereafter describe. The bees must not be injured by getting that part of the comb left out of their natural position, nor must the work be done so slow as to allow much drainage of honey among them. The combs should be cut *horizontally* about half way to the top of the hive. This allows enough comb for the bees to work upon, and at the same time they will be able to defend themselves against moths, when they could not if all the combs had been allowed to remain.

The old hive should now be placed in a new position near the spot where the operation has been performed. If it should be found on the following day, or at any time within *three* days, that either of the hives has a large majority of the bees, the hive may be *transposed*, that is, place the old one in the new one's place and *vice versa*. Do not disturb them after the third day, because the bees will commence fighting as soon as they become firmly attached to their respective domicils. I can generally manage to get them equally divided. If the *queen* is driven out into the new hive, many more will go there than would if she remained in the old one. In this way we get two good stocks for the next year that will thrive well. T. B. MINER.

Ravenswood, L. I., October, 1847.

FORMATION OF A POULTRY-YARD.

As soon as it is determined to have a poultry-yard, and the breed or breeds have been determined on, for some of them should be sitters, and others should supply the nests and the table with eggs, great care should be taken in the selection of the fowls; for on their healthiness, or freedom from disease, success will chiefly depend. The signs of health are as evident and as certain in the feathered tribes as in the quadrupeds. The glossiness and smoothness of the feathers, the brightness of the eye, the cleanness of the nostrils, the florid redness of the comb, the soundness of the legs, and the shortness of the claws, will be sufficient pledges of health. The male should be large of his kind, and bold and active; the hens should be gentle and tame; and, as sitters, by no means above the middle size; a small comb on the hen may be pardoned, but should not be chosen. A large comb is a frequent pledge of her unquietness, and rarely belongs to a good sitter or careful nurse. They should be of a middle age, from eighteen months to two years. Before that period, the eggs will not have attained their full size, and the young broods will be proportionably small. The first inhabitants of the fowl-yard, and which will give it to its future character, should not be bought from a stranger; but there should be a certainty that the hens are good and early layers, and that they begin to lay again as soon as their brood is disposed of.

Where a considerable number of fowls are kept, a poultry-house, however small and simple it may be, should be devoted exclusively to their use. In a farm-establishment, it is particularly necessary,

otherwise the owner will materially suffer. They will wander away, and be liable to be killed by foxes, hawks, &c., and the eggs will be laid in all kinds of places. This building, although well ventilated, should be warm and comfortable. Few animals suffer more from cold than our domestic fowls. The roosting-places should be easy of access to the poultry, but sufficiently high to be out of the reach of vermin, and they should consist of one or more level ranges. The boxes for laying and sitting, should be convenient and warm, apart from each other, and sufficiently numerous. If there be sufficient space, a yard-house should be fenced in, communicating with the poultry-house, and in which the whole stock may be occasionally confined. If it contain a stream or a pond of water, that would be a considerable advantage. At all events, if the poultry wander about the yard, or other parts of the premises, their roosting, laying, and sitting-place should be comfortable, closed at night, and there they should always be fed.

The poultry-yard should be dry. It should be sheltered from the northerly winds; oyster-shell lime, gravel, and bricklayer's rubbish, should be strewn in different parts of it, in which they may roll themselves at their pleasure. This is more conducive to the health of the fowls than is generally imagined, not only cleaning the feathers, but getting rid of eruptions and vermin, and favoring that most important of all functions—cutaneous perspiration. ZACH.

BAGGING AND BALE-ROPE.

THE manufacture of cotton-bagging and bale-rope in the West having increased to an over supply, causing a reduction in price below its actual cost, it was sold as low as $7\frac{1}{2}$ to 8 cents for bagging, and 3 cents for rope. Up to 1845, nearly the whole crop of hemp had been used for cotton-bagging and bale-rope; there being but little foreign demand, the price per ton for dew-rotted hemp fell to fifty dollars per ton. At this price the farmers declined growing it to any considerable extent. The quantity of land sown in 1846, was quite limited, and but a very small quantity of hemp-seed was saved of the growth of that year.

In the winter of 1847, the demand for Western dew-rotted hemp in the Eastern seaports, caused the price to go up from fifty dollars to double that sum, a price (ninety to one hundred dollars per ton) quite satisfactory to the farmers. They were then anxious to sow a full crop, but the seed was not to be had at even three dollars per bushel—so there being a short crop of 1846, the same, from the scarcity of seed, will be the case in 1847—producing not more than will be required for the bagging manufactories, leaving none for export. Indeed, the bagging factories are now importing dew-rotted hemp from St. Louis.

The farmers of the West will secure an abundance of seed of the growth of 1847, and will no doubt put in a much larger crop next spring than has ever been sown. It is an easy matter for the farmers of the West to produce as much hemp as the U. S. Navy consumes, and for all the commerce of the U. States merchant-service, if the price does not fall below ninety dollars per ton for dew-rotted hemp. KENTUCKY

Ladies' Department.

DRESSING A SALAD.

Two large potatoes, passed through kitchen sieve,
Smoothness and softness to the salad give;
Of mordant mustard add a single spoon,
Distrust the condiment that bites too soon;
But deem it not, thou man of herbs, a fault,
To add a double quantity of salt;
Four times the spoon with oil of Lucca crown,
And twice with vinegar procured from town;
True flavor needs it, and your poet begs
The pounded yellow of two well-boiled eggs;
Let onions' atoms lurk within the bowl,
And, scarce suspected, animate the whole,
And, lastly, in the flavored compound toss
A magic spoonful of Anchovy sauce.
Oh, great and glorious! Oh, herbaceous treat!
'Twould tempt a dying anchoress to eat;
Back to the world he'd turn his weary soul,
And plunge his fingers in the salad bowl.

Rev. Sidney Smith.

SMOKE-HOUSES.

THE Westphalia method of smoking hams, noticed in the 5th vol. of the *Agriculturist*, p. 346, cannot be too strongly recommended to every person who cures his own bacon; and I have observed with great satisfaction, during a recent visit to the Keystone-State, that it is not very uncommon in Pennsylvania. In several farm-houses I saw that the smoke-house was a room in the garret through which the flue of the kitchen-chimney passed, which was neither ceiled nor plastered, but carefully white-washed every fall, before the meat of the winter's killing was ready to be put into it. There was no outlet but the door, and a small trap-door in the roof, which was crossed by rafters, into which hooks were driven for the meat to hang upon. None was suffered to hang against the wall, as that side would receive no smoke, and become damp and sodden. The smoke, which is almost cold when it reaches so high, was admitted through a hole in the chimney a foot or eighteen inches from the floor, and passed freely through the cracks in the roof, where the house was low, as in two or three instances, the danger from fire was guarded against by ceiling the room, and leaving small loop-holes for the escape of the smoke.

The only disadvantage, if it be one, in this way of smoking meat, is, that it requires nearly double the length of time to cure it that it does in the common way. Frequently, however, it is left in this room until it was wanted for use, or is taken down only during the hottest part of the summer, where the roof is not shaded, and there is danger of its being over-heated. The flies do not trouble it while the room is kept perfectly dark, and more or less filled with smoke, as it must be daily from the kitchen-fire. Our Maryland smoke-houses, though built on a very different plan, produce the same effect, and I believe none will dispute the fact that Maryland, and her sister Virginia, produce hams superior to those cured in any other State in the Union; and when two years old they are thought by epicures to equal the Westphalian. Some attribute this to the custom of allowing the hogs to run in the woods until late in the fall, where, by feeding on acorns, nuts, and roots, the flesh acquires the peculiar flavor of wild meat; but compare a real Maryland or Virginia ham with those from any other State where the same liberty is given to the hogs, and the difference will be ac-

knowledgeed to be in the manner of curing and smoking the meat—not in the treatment of the animals.

Our smoke-houses are generally built of logs, rudely plastered outside with clay, and thatched with straw. The hams are hung upon hooks driven into the rafters. The fire of chips, which is covered with saw-dust to prevent a blaze from rising, is made in the middle of the floor, and the smoke, after having done its duty, is permitted to escape freely through the innumerable cracks and openings in the walls and thatch.

E. S.

Eutawah.

FEMALE EDUCATION.—It was a judicious resolution of a father, as well as a most pleasing compliment to his wife, when, on being asked what he intended to do with his girls, he replied; "I intend to apprentice them all to their excellent mother, that they may learn the art of improving time, and be fitted to become, like her, wives, mothers, heads of families, and useful members of society." Equally just, but bitterly painful, was the remark of the unhappy husband of a vain, thoughtless, dressy slattern: "It is hard to say it, but if my girls are to have any chance of growing up good for anything, they must be sent out of the way of their mother's example."

PEACH-PICKLES.—Take one gallon of good vinegar and add to it four pounds brown sugar; boil this for a few minutes and skim off any skum that may rise; then take clingstone peaches that are fully ripe, rub them with a flannel cloth to remove the down upon them, and stick three or four cloves in each; put them into a glass or earthen vessel, and pour the liquor upon them boiling hot. Cover them up and let them stand in a cool place for a week or ten days, then pour off the liquor and boil it as before; after which, return it boiling to the peaches, which should be carefully covered up and stored away for future use.

HOW TO PREPARE SUPERIOR MINCE-MEAT FOR PIES.—Take stoned raisins, currants, sugar, and suet, of each 2 lbs.; Sultana raisins, boiled beef (lean and tender), of each 1 lb.; sour or tart apples 4 lbs.; the juice of two lemons; the rind of one lemon chopped very fine; mixed spice $\frac{1}{4}$ lb.; candied citron and lemon-peel, of each, 2 oz.; brandy one gill; and chop the whole very fine. The preparation may be varied by adding other spice or flavoring, and the addition of eggs, or the substitution of chopped fowl or veal, for beef, according to fancy or convenience.

FACTS USEFUL TO BE KNOWN.—Water, when hot, dissolves more salt, sugar, &c., than when it is cold. Hence the utility of pouring hot salt and water over articles to prepare them for pickling; and hot syrup upon preserved fruits; for the salt or sugar that would crystalize as the liquid cooled, is taken up by the fruit, &c., which by being heated also, absorbs more than it could be made to do if it were put on cold.

HORSE-RADISH may be kept during winter, by grating it while green, and corking it up in bottles filled with strong vinegar, set in a cool place.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Britannia, we are in receipt of our foreign journals to the 4th of September.

MARKETS.—*Ashes* a considerable advance. *Cotton* had receded from $\frac{1}{2}$ d. to $\frac{1}{4}$ d. per lb., and was dull of sale. *Flour and Grain*, another serious decline. *Provisions* in moderate request. *Naval Stores* in good demand. *Rice* the same. *Tobacco* firm. *Wool* an advance of 1d. to 2d. per lb.

Money still continues in great demand at 5 to 7 per cent. Numerous failures had taken place, particularly among the grain and provision merchants. These have had the effect of exciting great distrust, and have cast a general gloom over all business transactions.

The Crops have proved very abundant on the Continent, and have been uncommonly well secured. In Great Britain and Ireland they are a full average. The potato-rot has manifested itself in some instances, though not to an alarming extent. Should it prove as virulent as last year, its effects would not be near so disastrous to the people, as they have cultivated other roots to a considerable extent this season, together with several varieties of grain, making them in a great measure independent of the precarious potato-crop, which has formed for a long time, almost exclusively, the sustenance of the bulk of the Irish people.

Disease in the Wild Potato.—It is a curious fact that, the wild Mexican potato, carried from Mexico last spring by Mr. Uhde, and planted in the garden of the London Horticultural Society, was the only kind there that appeared to be much damaged by the prevailing disease.

Application of Ether in Taking Bees.—Several successful experiments are said to have recently been made in France on the etherization of bees, so as to be able to take their honey while they remain in a state of inaction, without the necessity of destroying their lives.

Forage of the Canadian Army.—The daily ration for each horse of the cavalry and artillery consists of 10 lbs. of oats (or when required, 14 lbs. of bran in lieu), weighing at least 36 lbs. per bushel; 12 lbs. of the best Timothy hay; and 8 lbs. of straw of the best quality, the whole required to be perfectly free from weeds or dust.

For other troops, staff, and departments, the daily ration of each horse is 9 lbs. of oats, 16 lbs. of Timothy, and 6 lbs. of straw.

Salt as a Manure.—Common salt may advantageously be employed as a manure directly to the soil, or it may be mixed with the dung-heap. In the latter application of it, it must be borne in mind that in large quantities it is capable of suspending fermentation altogether, so that if the farmer wants his dung to heat well he must be careful in the use of salt; but in small quantity during the fermentation, or in full supply to the manure a short time before its application to the land, salt is likely to be of great service. Not only does it render the ammoniacal compounds less volatile, but it is capable of destroying the germs of both vegetable and animal life, for there is little doubt that we too often introduce into the soil with the manure the weeds which choke, and the insects which devour, our crops. Salt will prevent all seeds from germinating when they are sufficiently saturated with a solution of it. No fear, however, need be entertained of its effect when the manure has been properly mixed with the soil; it is then too diluted to interfere with the germination of seed.—*English Paper.*

Spanish Stock.—So far as I could judge, and from what I saw, judgment seems more wanting in the cultivation of the soil than in the rearing of animals. The breed of horses is deserving of very high commendation. Sheep, pigs, and cattle are much like what Goldsmith, in his "Animated Nature," describes as common to such countries. For my own part, I think

no kind of sheep, generally speaking, could be better adapted for the migratory life these animals lead; and when we consider they generally are the property of the Spanish aristocracy, no wonder that something like taste should pervade the flocks. The pigs are generally, in color and figure, more like those of Hampshire and Berkshire than any I know, but fully more handsome, and from the manner in which they are fed, often on Indian corn, better ham cannot be; even the wild boar, of which they may hold a cross, cannot excel them. The cattle are most admirably adapted for the draught, being clean made up (as a dealer would say), healthy looking animals, many of their points much in keeping with the Devons; the horns, however, more like the buffalo. Those which are slaughtered are, however, thin and ill fed, and require all the oil and garlic to fit them for the Spanish palate. With five or six months feeding on such pastures as in the land of Erin, they would make very nice beef, and, with a little additional feeding, say of ten or twelve sacks of turnips, and a few pounds of Indian corn, would excel the roast beef of old England; yes, beyond a doubt.—*Monthly Far. Jour.*

Egyptian Commerce.—According to the Alexandria Custom-house annual report, it appears that during the year 1846 the total value of exports was 1,900,000*l.* sterling; and of imports, 1,750,000*l.* sterling. Both of imports and exports England has had by far the greatest share. There were exported from Egypt to England, besides other minor articles, 200,000 quarters of beans, of the value of 118,800*l.*; 41,000 of wheat, 45,948*l.*; 6,000 of Indian corn, 3,800*l.*; 13,330 of lentils, 12,864*l.*; 28,720 of barley, 18,880*l.*; 2,000 of sesame-seed, 4,382*l.*; 1,700 of linseed, 9,000*l.*; 4,000 tons of cotton, 178,700*l.*; 3,000 of flax, 64,750*l.*; 295 of gum-arabic, 17,360*l.*; 45 of senna, 1,980*l.*; 225 cwt. of henna, 1500*l.* The imports from Great Britain include the following articles:—Cotton manufactures, 323,460*l.*; coals, 40,000 tons, besides the quantity imported for the use of the East India Company, and the Peninsular and Oriental Company; cochineal, 11,520*l.*; indigo, 20,000*l.*; hardware, 13,800*l.*; earthenware, 6,670*l.*; tin-plates, 4,360*l.*; sugar, 6,000*l.*; wines and spirits, 9,000*l.* sterling. The total exports to the United Kingdom amounted to 651,000*l.*; and the imports to 615,000*l.* During 1846, 1,218 vessels of all nations entered the port of Alexandria, and 1,225 left it. Of these 251 were English entering and 220 leaving it.—*Agricultural Gazette.*

Saving Grain in Damp Weather by Straw.—A field of white oats, near Plymouth, was cut wet, and the weather continuing the same, was at last stacked in layers, with dry straw between. Where no dry straw is to be had, it may be dried in sheaf; either by a simple kiln, or without risk of fire, by lime, as follows:—If the rick be made hollow, with the grain turned inward, a sufficient quantity of fresh quicklime placed within, and then all closed in from bottom to top, and covered over to exclude the external air; the lime will rapidly dry the air within, which will as rapidly draw moisture from the grain; and so continue until the grain is dry, or the lime fully slaked. And as quicklime will absorb about one-third its weight of water, a ton of lime will take between 6 and 7 cwt. of water, and thus probably dry 6 or 7 tons of grain and straw; for all this water must come from the grain, if the air is well excluded, and the lime raised from the soil by a bed of stones, gravel, or straw. The lime must not, of course, touch the grain; and therefore room should be left for it to swell in slaking and for turning it over to slake all through; and a sort of door-way must be left on the side of the rick, which can be opened for putting in the lime, and for turning it over; but must be closed up immediately, and kept close, except at those moments.—*Farmer's Herald.*

Editor's Table.

FAIR OF THE AMERICAN INSTITUTE.—The Twentieth Annual Fair of the American Institute will be opened to the public at Castle Garden, N. Y., on Tuesday, the 5th of October, at 9 o'clock, A. M.

Plowing and Spading Matches, and testing of Plows will take place at Hempstead, L. I., on Friday, the 8th.

Exhibition of Pure-Blood and other Cattle, Horses, Sheep, Swine, &c., will be held at the corner of 23d St. and 5th Avenue, rear of the Madison Cottage, on Wednesday and Thursday, the 13th and 14th.

All entries of stock must be made in writing and delivered to the Clerk at the time of entry at the Committee-Room, on Monday the 11th of October, with full pedigrees of the animals, their breed, ages, owners' names, &c., and with such observations as to their food, thrift, constitution, milking or fattening qualities, as they may deem proper. Application may also be made by mail or otherwise, to T. B. Wakeman, Corresponding Secretary of the Institute.

All animals must be upon the ground by 9 o'clock, A. M., on Wednesday, the 13th, attended by their owners or keepers for the inspection of the Examining Committee.

SHOW OF THE QUEEN'S CO. AGRICULTURAL SOCIETY.—The exhibition of this Society will be held at Hempstead, L. I., on the 8th of the present month; and the *Plowing Match* of the American Institute will also be held at the same time and place.

HORTICULTURAL SHOW OF THE AMERICAN AGRICULTURAL ASSOCIATION.—The third exhibition of the Am. Ag. Association took place at the Lyceum Building on the 8th of September, and continued two days. It surpassed any previous show held by this Society, and was perhaps one of the finest displays of the kind ever got up in this city. We shall not attempt at present to give a full account of all the articles exhibited, but merely a brief sketch of such specimens of fruits, flowers, and vegetables, as seem to us to be more particularly worthy of notice. The centre of the room was occupied by a long table, containing principally the fruit; and on the sides and end were disposed the flowers and vegetables. Among these we noticed a large and magnificent display of superb dahlias, by Messrs. Dunlap & Thompson, and Mr. Geo. C. Thorburn; also, a box of very fine seedling dahlias, from Philadelphia; a lot of very choice and beautiful roses from Mr. Moore; another fine collection from Messrs. Ball & Hauser, among which were some good seedlings, and still another from Mr. Mantell. At the end of the room was a table containing some splendid bouquets and baskets of flowers from Dunlap & Thompson, Isaac Buchanan, Mr. Mantell, Mrs. Jones, E. Holbrook, and others. We also observed from Mr. Holbrook, some superb green-house plants, a fine lot of roses in pots, and other rare and beautiful pot-plants, in different parts of the room.

We will now take a glance at the fruits, which formed the most important part of the exhibition. To notice these in detail would take up more space than we can at present spare, and we must therefore content ourselves with a very general description. Of foreign grapes, there was a rich display of many choice varieties, grown under glass and in the open air, with and without artificial heat. Some of the bunches were surprisingly large, and looked so luscious that we could not help regretting that we were not permitted to taste them; in short, the grapes were unequalled by anything else in the room. There were a few native grapes, which looked very fair, although it was too early to have them in perfection. There was a very fine and large display of that most delicious fruit, the peach, among which we noticed some very good seedlings. Some of the specimens were exceedingly large, and

among the collections were some of our choicest varieties. Then there were nectarines, plums, apples, pears, preserved gooseberries, musk and water-melons, &c., &c. Among the contributors of vegetables and fruits, we noticed the names of Roswell L. Colt, Samuel T. Jones, R. L. Pell, R. K. Delafield, Isaac Buchanan, E. Holbrook, Mr. Rankin, and others.

Of vegetables there was a very good display, consisting of fine specimens, of beets, carrots, parsnips, pumpkins, squashes, egg-plants, celery, okra, Jerusalem artichokes, &c., &c.

IRELAND'S WELCOME TO THE STRANGER; or an Excursion through Ireland, in 1844-5, for the purpose of personally investigating the condition of the Poor. By A. Nicholson. New York: Baker and Scribner. 1 vol. 12mo. pp. 456. This volume is a narrative of facts concerning the physical and moral condition of the poor of Ireland, which came under the personal observation of the authoress, who visited many of the wildest portions of that country at great toil and privation, journeying on foot, and finding her rest and scanty, though welcome food, in the miserable huts of the poorest class of people. The style of the volume is simple and graphic, and well calculated to effect its object, the awakening of the public sympathies in behalf of the destitute and starving Irish. There are many incidents related of deep and thrilling interest; and many delightful specimens afforded of the irresistible wit of that free and simple-hearted people. We commend the volume to the attention of every friend of humanity. The kind-hearted writer deserves to be ranked with the philanthropic Howard, and the benevolent Mrs. Fry, whose generous and self-denying labors in behalf of the poor she has so well emulated. The work is well executed.

KEEPING UP APPEARANCES; or a Tale of the Rich and Poor. 18mo. pp. 194.

RICHES HAVE WINGS; or a Tale for the Rich and Poor. 1 vol. 18mo. pp. 192. Published as above.

Both of these very handsome little volumes are from the pen of Arthur, whose works are so well known and esteemed by all who prefer the useful and practical in literature, to the sentimental trash which deluges the press at the present day. The first illustrates, in a very charming story, the folly of living beyond one's income, and resorting to means of doubtful propriety for the sake of "keeping up appearances." The second is a no less pleasing tale, in which the writer seeks to impress upon the reader the vanity of dependence upon wealth, and its insufficiency to secure to its possessor lasting happiness. "Riches make to themselves wings and fly away." We heartily commend both these volumes to the public.

A TEXT-BOOK ON NATURAL PHILOSOPHY; For the Use of Schools and Colleges, containing the most recent discoveries and facts, compiled from the best authorities. By J. W. Draper, Professor of Chemistry in the University of New York, with nearly 400 Illustrations. New York: Harper & Brothers, pp. 380, 12mo. Price 75 cents. The study of Natural Philosophy, in the present age of improvement, is considered as an indispensable branch of education, even in our common schools—no matter what the capacity of the pupil may be, however ignorant, at the commencement, or whatever may be his future occupation. To the farmer, the artisan, the lawyer, the physician, or the divine, the study of this pleasing branch of science presents a view of the laws and relations of those objects with which he is the most familiar, and are essential to be known for the performance of the ordinary occupations of life.

The plan of the work before us is similar to that of the Text-Book on Chemistry, by the same author, giving a general view of the great features of this science in an agreeable and comprehensive manner, which, with the aid of a good teacher, may be understood by all.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, SEPTEMBER 23, 1847.

ASHES, Pots,.....per 100 lbs.	\$5 31	to	\$5 38
Pearls,.....do.	6 44	"	6 50
BALE ROPE,.....lb.	5	"	6
BARK, Quercitron,.....ton.	35 00	"	36 00
BEANS, White,.....bush.	1 00	"	1 25
BEESEWAX, Am. Yellow,.....lb.	24	"	30
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	45	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	11	"	13
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	12
COTTON,.....do.	10	"	14
COTTON BAGGING, Amer. hemp,....yard,	11	"	14
FEATHERS,.....lb.	25	"	34
FLAX, American,.....do.	71	"	9
FLOUR, Northern and Western,.....bbl.	5 00	"	5 75
Fancy,.....do.	6 00	"	6 25
Southern,.....do.	5 00	"	5 75
Richmond City Mills,.....do.	—	"	—
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 75	"	4 25
GRAIN—Wheat, Western,.....bush.	1 00	"	1 25
Southern,.....do.	1 00	"	1 15
Rye,.....do.	75	"	76
Corn, Northern,.....do.	65	"	67
Southern,.....do.	60	"	63
Barley,.....do.	65	"	66
Oats, Northern,.....do.	44	"	46
Southern,.....do.	40	"	45
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.	40	"	50
HEMP, Russia, clean,.....ton.	225 00	"	230 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	7	"	9
HOPS,.....lb.	10	"	15
HORNS,.....100.	20	"	10 00
LEAD, pig,.....do.	4 12	"	4 25
Sheet and bar,.....lb.	44	"	54
MEAL, Corn,.....bbl.	2 50	"	3 00
Corn,.....hhd.	17 50	"	18 00
MOLASSES, New Orleans,.....gal.	35	"	36
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 38	"	2 62
Pitch,.....do.	81	"	1 00
Rosin,.....do.	60	"	75
Turpentine,.....do.	3 25	"	3 31
Spirits Turpentine, Southern,....gal.	51	"	52
OIL, Linseed, American,.....do.	65	"	75
Castor,.....do.	1 20	"	1 25
Lard,.....do.	80	"	85
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	1 00	"	1 25
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	8 00	"	9 00
Smoked,.....lb.	7	"	11
Round, in pickle,.....do.	5	"	7
Fork, Mess,.....bbl.	13 00	"	14 00
Prime,.....do.	10 00	"	12 00
Lard,.....lb.	9	"	10½
Bacon sides, Smoked,.....do.	6	"	8
In pickle,.....do.	5	"	7
Hams, Smoked,.....do.	8	"	12
Pickled,.....do.	6	"	10
Shoulders, Smoked,.....do.	6	"	8
Pickled,.....do.	5	"	7
RICE,.....100 lbs.	5 00	"	6 00
SALT,.....sack,	1 45	"	1 55
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	6	"	9
Timothy,.....bush.	1 75	"	3 50
Flax, clean,.....7 do.	10 00	"	11 00
rough,.....do.	9 25	"	9 50
SODA, Ash, cont'g 80 per cent. soda,....lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	6	"	9
SUMAC, American,.....ton.	35 00	"	37 00
TALLOW,.....lb.	9	"	10
TORACCO,.....do.	3	"	8
WHISKEY, American,.....gal.	27	"	28
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	30	"	35
Half blood,.....do.	20	"	25
Common do,.....do.	18	"	20

REMARKS.—Very little change has been made since our last in prices. The farmers are so well able to hold their produce that it is not pressed upon the market, and the consequence is, that the recent continued fall in grain and provisions in Europe has had little effect on our market.

Money continues plenty and business good.

The Weather. Early frosts have set in this month, about the latitude of 42° and above, and have done considerable injury to the corn, and some other products. Potatoes are suffering a good deal in various quarters from the rot. Our late advices from the South, especially in Mississippi, speak of the alarming appearance of the cotton worm in large numbers. It is feared its effects may again be disastrous; though in consequence of the lateness of the season, it cannot commit anything like the injury it did last year. All other Southern crops promise well.

ACKNOWLEDGMENTS.—Premium List of the Queen's County Agricultural Society at its Sixth Annual Exhibition, to be held at Hempstead, L. I., October 8th; Catalogue of Selected Roses, cultivated and for sale at the Commercial Garden and Nursery of Parsons & Co., of Flushing, Long Island; also, samples of Brown Corn from J. H. Woolsey, Dr. H. A. Field, and others.

TO CORRESPONDENTS.—Communications have been received from Solon Robinson, A New Yorker, E. S., and Dr. H. A. Field.

H. of Vicksburg, is informed that boiling salt-water offers the best means of driving ants out of his strawberry-beds. It would be better to find their dens and pour hot water in there. Spirits of turpentine will drive them away, but it is feared that it would render the ground permanently unfit for the plants to grow in. For destroying ants in dwellings, &c., see p. 36, of the current volume.

PERUVIAN GUANO.

FOR Sale at Bating Hollow, Long Island, by ANSEL DOWNS.

FOR SALE.

FOUR Merino Bucks, bred by David C. Collins, of Hartford, Ct., got by Mr. Collins' imported Rambouillet buck, Grandee, out of choice Ewes, selected from the flock of Mr. Blakeslee, Watertown, Ct. Inquire of A. B. Allen, 187 Water St.

A. STEVENS.

SUPERIOR SAXONY SHEEP.

THE Subscriber now offers for sale a superior lot of young Saxon Sheep, bred from a recent importation, selected expressly for him from the most celebrated flocks in Germany, by John A. Taintor, of Connecticut, when in Europe last year. Apply to S. C. SCOVILLE, Salisbury, Ct.

or A. B. ALLEN, New York.

SHEEP—DOGS.

FOR Sale, three young Sluts and one dog. Apply to H. A. FIELD, Corner of 10th street and Third avenue, N. Y.

CRANBERRY PLANTS.

SEVERAL thousand Cranberry plants for sale, carefully done up in boxes, in quantities to suit purchasers. Price \$7 per thousand, or \$1 per hundred.

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ANCIENT AND REAL LINNÆAN BOTANIC GARDEN AND NURSERY,

LATE OF WILLIAM PRINCE, DEC., FLUSHING, L. I., NEAR NEW YORK.

THE New Proprietors of this celebrated Nursery, known as Prince's, and exclusively designated by the above title for nearly fifty years, offer for sale every description, including the newest and choicest varieties of Fruit and Ornamental Trees, Shrubs, Vines, Plants, Roses, &c., the genuineness of which may be depended upon; and they will unremittently endeavor to merit the confidence and patronage of the public, by integrity and liberality in dealing, and moderation in charges.

Descriptive Catalogues gratis, on application, post paid. September 1, 1847.

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CORN—MILLS.

THE subscribers are now supplied with a newly invented Cast-Iron Mill, for grinding Corn and other Grain, either by hand or horse power. It will grind from 3 to 4 bushels per hour. Price \$30.00.

Also the hand Corn-Mill, which grinds from 1 to 1½ bushels per hour. Price \$6.50.

These Mills are highly economical and convenient, and every farm and plantation ought to have them. They are simple in construction, not liable to get out of repair, and are easily operated. When one set of plates is worn out, they can be replaced by others at a trifling cost.

A. B. ALLEN & CO., 187 Water st., N. Y.

WANTED.

A SITUATION as overseer on a plantation, by one who has devoted his whole life to practical and theoretical farming. An interview can be had by addressing L. G., care of the Editor of the Agriculturist, 187 Water st., New York

au3t

INSTRUCTION IN CHEMISTRY,

And the Connected Sciences, at Yale College, New Haven, Ct.

THE new Laboratory of Analytical Chemistry, connected with this Institution, will be opened on the first of November. Pupils will however be received and temporarily accommodated on the 1st of October. The Department of Chemistry applied to the Arts, &c., will be under the charge of Prof. B. Silliman, Jr. That of Chemistry applied to Agriculture, will be under the charge of Prof. John P. Norton.

Every facility will be afforded to members of the College and all others who may wish to acquire a thorough knowledge of Elementary or Applied Chemistry, Mineralogy, and Metallurgy, and the terms of tuition will be as moderate as the nature of the case will admit, and proportioned to the requirements of the pupil.

The Annual Course of Lectures on Elementary Chemistry, by Prof. B. Silliman, will commence on the 2d of October, at 12 M., and continue with five lectures each week until about January 1st. Tickets \$15.

Prof. Norton will commence a Course of Lectures on the Application of Science to Agriculture, in January, 1848. This course will continue about two months, and there will be four lectures in each week. The object of these lectures will be to give the Farmer or others, a clear and connected view of both science and practice in their relations to each other. Experiments will be given, when they are necessary, to the clear understanding of the subject. The fee for this course will be \$10.

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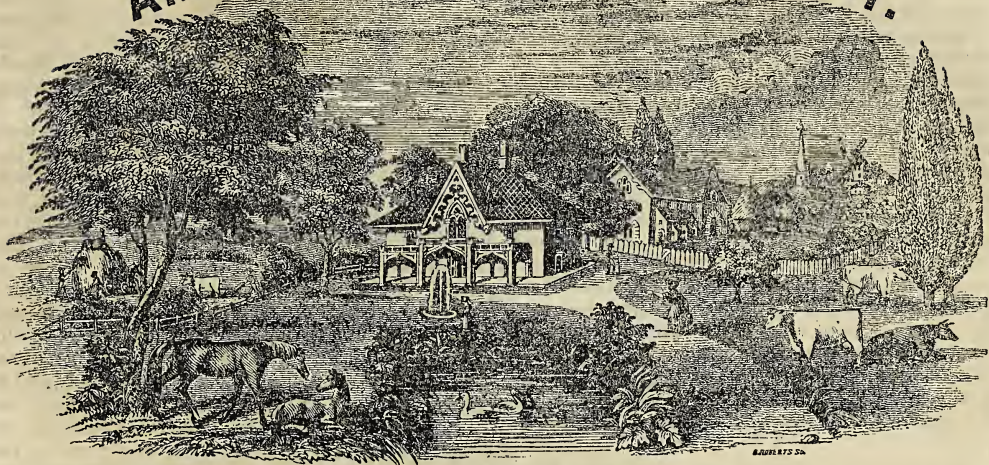
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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VI.

NEW YORK, NOVEMBER, 1847.

NO. XI.

A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

HOW TO MAKE SAUR-KRAUT.

TAKE as many drum-head cabbages, or any other kind having a firm heart, as you wish to preserve, tear off the outer leaves, quarter them, cut out the stalks, and chop the remainder into small pieces by hand or with a machine. Then, to every 100 lbs. of cabbage, take 3 lbs. of salt, $\frac{1}{4}$ lb. of caraway-seed, and 2 oz. of juniper-berries, and mix them together in a dish or bowl. Then procure as many clean casks, strongly hooped with iron, as may be required, and fill them with layers of the chopped cabbages, about 3 inches thick, sprinkling each layer, as it is pressed in, with the mixture of caraway-seed, juniper-berries, and salt. When each cask is full, lay over it a coarse linen cloth and a wooden follower or lid, just fitting within the mouth of the cask, upon which must be placed a stone or weight sufficiently heavy to prevent it from rising, and allow it to ferment for a month. The cabbage produces a great deal of water, which floats around the sides of the casks to the top of the follower or lid. This must be poured off, and its place supplied with a solution of lukewarm water, whole black pepper, and common salt, taking care that the cabbage is always covered with brine. In order to keep the kraut fresh and for a long time, the casks should be placed in a cool situation as soon as a sour smell is perceived.

Uses, &c.—Saur-kraut is not only a wholesome vegetable, but also one of the best preventives of the sea-scurvy that we have. Consequently, no vessel bound on a long voyage, particularly through hot climates, where the common potato will not keep, should sail without a full supply of this healthful food. It may be served up for the table, prepared in a similar manner as fresh cabbage; or it may be washed in soft water, and then stewed in a stove, or oven, for three hours with just sufficient

water to cover it with the addition of a little butter, taking care to stir it now and then, or it will burn. At the end of two hours, put in some sausages, pork, bacon, or any kind of meat you like, but corned pork is generally used. If any be left it is equally good warmed over. Served up in this way, it forms a very nutritious dish, and is much relished by those who have long been accustomed to its use. As this is the true "Saur-Kraut" of the Germans, it may not, on the first trial, prove agreeable to the olfactories of all our American readers; but it hardly need be said, that it is a standing winter-dish at the tables of the rich in Germany, cooked either by the process of slowly stewing, with a little water alone, or with a small piece of bacon or corned pork, and sent to table in the same dish.

APPLE-ORCHARDS.—No. 3.

PREPARATORY to the planting of an orchard, it is desirable to determine the quality of the fruit of seedlings at as early an age as possible, and to know whether they are to be cut off at the ground and grafted, or to be preserved entire. In order to do this, the following devices have long been practised and have usually been attended with success. Any time within the month of May or June, select a horizontal branch of the tree designed to be rendered fruitful, and remove from the part near its junction with the trunk, a ring of bark from one-fourth to one-half of an inch in breadth, taking precaution, at the same time, to rub off, within the space operated upon, *every part* of the bark, quite to the sap-wood, in order to obstruct the descending juices in the succeeding autumn. Another expedient employed for the same purpose is, to make two turns of a copper-wire closely round the bark, with a repetition of the operation at some distance below, and leave it to be incorporated by the growth

of the tree. Should either of these devices prove insufficient, or should the healing of the wounded parts follow too quickly, the operations may be repeated in the same, or in the following season. The total removal of a ring of bark produces the desired effect, sooner, by a whole year, than a mere stricture upon it, although the pressure from the wire of itself, finally kills the bark underneath. Alkaline, or ammoniacal preparations have also been applied to young trees, as well as to old ones, for the purpose of stimulating their growth and accelerating their fruitfulness, such as white-washing their trunks and branches, rubbing them with soapsuds, and spreading round them shell-lime, gypsum, charcoal, ashes, &c.; and, "human urine," says Columella, "which you have let grow old for six months, is well fitted for the shoots of young trees. If you apply it to vines, or to young apple-trees, there is nothing that contributes more to make them bear an abundance of fruit; nor does this only produce a greater increase, but it also improves both the taste and the flavor of the wine, and of the apples."

Apple-trees are generally fit for planting out in the orchard at about the age of seven years, at which time, if they have been properly treated in the nursery, they will be about an inch and a half in diameter at the middle of the stem. The particular age, however, at which they should be removed to their final destination, after they have formed a good head, is not very important, provided they do not much exceed the above-named size; and the objection to a larger size, is the difficulty of taking them up with a due proportion of roots, so as to prevent them from receiving too great a check. If trees are to be purchased from a nursery, either as seedlings, or ready grafted, and the sorts cannot be relied upon, they should be inspected in the previous summer while in leaf; and those selected which give the greatest promise of making good and healthy trees, and the most likely to be good bearers. They should have full and flourishing heads, and broad, roundish leaves, as such generally bear the largest fruit, and the most abundant crops. In winter, such trees will present a larger and fuller bud than those the leaves of which are small and pointed; but though these are favorable indications of the size of the fruit, and the productiveness of the tree, they are by no means so with regard to other qualities; as the trees may be early or late bearers, and the fruit red, yellow, or green; and whether they will produce either good cider-apples, or those better adapted to the table, can only be known when they produce their first fruit. If they then prove not such as are desired, or there be too great a proportion of one sort, grafting or budding in the head should be had recourse to. This will, it is true, protract the time of bearing a year or two; but it is much better to submit to two or even three years' delay, than for a hundred years to have bad fruit. The most proper time for planting out, is soon after the trees have shed their leaves. They should be taken up with their lateral roots at least two feet in length, and planted as soon as possible. In planting orchards, the ground for the space of at least six feet in diameter should be trenched two spades deep, the lowermost of which should be cast away, and the other well bro-

ken with a spade or otherwise, and the place of the former supplied with turf, or a compost of stable-dung, a small portion of leaf-mould or charcoal, well mixed with a little shell-lime, wood-ashes, soda, or other alkaline substance. It is of some importance that the tree, when planted, should stand in the same position with regard to the sun, as that in which it grew in the nursery; and, in order to insure this, the south or north side of each tree should be marked before it is removed, and this might be done at the time of selection. Care should be taken to surround the roots with the finest part of the mould, and to plant the trees at precisely the same depth as that at which they before grew. The ragged or lacerated ends of the roots should be taken off with the knife; and the hole, after being duly prepared as above, opened wide enough to admit the longest of them. If the ground at the time of planting be dry, and water can be conveniently procured two or three bucketfuls, applied to each of the trees, will be of essential service in securing its growth. The tree, being temporarily fixed in its proper position by a single stake, the hole should be nearly filled with mould, and the water poured upon it. After a few hours, the remaining mould may be added, and well trodden down. If, in the ensuing spring, a thick dressing of a well-mixed compost of lime and earth be laid over the space that has been opened round each tree, and afterwards dug in, it will be highly beneficial to it; and digging or forking round the trees should be repeated for three or four years in succession. After this period, it is probable that the leaves falling from the trees, will be nearly or quite adequate to the supply of all the organic or gaseous substances required for the perfection of their fruit; therefore, it is in the mechanical state, and to the inorganic constitution of the soil that we are to look for those conditions which are either favorable or unfavorable to the growth and productiveness of such trees. It is not enough that the soil be neither too open nor too retentive for the supply of a due degree of moisture; it must also contain those inorganic or mineral substances which the tree and its fruit require. When the defects are known, the remedies are obvious. By draining and trenching only, a stiff soil may probably be rendered favorable to the production of fruit; and, if this operation fail to produce the desired effect, it is evident that mineral manures are wanting, which may be supplied by heavy dressings of lime, or peat-ashes, or both. If the soil be too porous, a heavy dressing of marl is the best remedy; and when this cannot be procured, clay, with lime, and peat or other ashes, will supply its place.

The distance at which trees should be planted in an orchard must be from forty to sixty feet apart, according to the richness of the soil; for it should always be remembered that the roots extend far beyond the branches; or another mode may be adopted that will answer for the present generation and for posterity. This may be effected by planting what may be called *principal* trees, at the distances which their full growth will require, and placing between them, either as standards, or as dwarfs, *supernumerary* trees, to remain until the principal ones shall require them to be removed. The *supernumeraries*, in this case, will have a peculiar

value; since, if they be dwarfs, they will immediately come into bearing, and will ripen their fruit early in the season, which can be gathered with great facility; and if it falls to the ground, will often escape from being bruised. Dwarfs, too, may easily be pruned, and very conveniently thinned of their superfluous fruit; or, they may be readily cleansed from every offending thing, or supplied with nutritious washes. On the other hand, if the supernumeraries be seedlings or grafts, they will be ready for the supply of such vacancies as will have occurred amongst the standards, from accident or disease, at the time of removal. Among other advantages resulting from the wide planting of orchards, may be mentioned the healthful and invigorating influence of the sun on every part of the trees, and thereby causing them to bring forth more fruit, and that which is larger, fairer, and better flavored; for an apple, of a globular form, three inches in diameter, contains twenty-seven times more bulk than one of an inch in diameter (globes being to each other as the cubes of their diameters). Hence ap-

ples are not to be valued by their number only, but by their size; and indeed, by their weight; for most weight must be expected where there is most juice, and juice will follow health and vigor.* Another important advantage is, that trees planted at wide intervals from each other, have more room to spread, without the interference of their roots and branches, and consequently will bear a greater quantity of fruit. A tree with a hemispherical head, fifty feet in diameter, will have twenty-five times as much fruit-bearing surface, as one of the same formed head ten feet in diameter. In other words, circumstances being equal, it would produce as much fruit as twenty-five of the smaller trees, although it would occupy but little more than one-half as much ground.

The usual mode of planting out trees in an orchard, is the *square-form*; but the system most esteemed and adopted by the ancients, was to plant them *in quincunx*; that is, in the form of the Roman numeral V. The two modes may be illustrated by the following diagrams:—



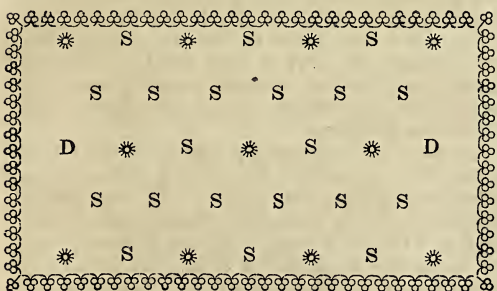
QUINCUNX-FORM.—FIG. 80.

The quincunx, when compared with the square-form, saves one-eighth of the ground, and has the advantage of disposing the trees at equal distances apart in every direction. The vacant spaces which will be left at the ends of every other row of standards, may be filled with supernumerary dwarf-trees, and allowed to remain permanently. To plant temporary trees between the principal ones, so as to divide the distances into halves, will require about



SQUARE-FORM.—FIG. 81.

two supernumeraries for every principal one, by the square-form, and a less number by the quincunx-form, if dwarf-standards are allowed to remain in the vacant spaces which occur at the ends of every other row. This will be more clearly understood by an inspection of the diagrams below, in which the asterisks (*) denote the standard-trees, (D) the permanent dwarfs, and (s) the supernumerary trees.



QUINCUNX-FORM.—FIG. 82.

The following is a practical method of laying out an orchard by the quincunx-form:—First, determine the points for the centre of each tree in the outer row, by setting stakes at equal distances apart



SQUARE-FORM.—FIG. 83.

—say fifty feet. Take a line one hundred feet in length, with a knot or mark in its middle, and place its two ends at two contiguous stakes; then

* Papers of Mass. Agr. Soc., 1804, p. 85

extend the knot or mark till the whole line becomes stretched in two equal lengths, and the knot or mark will indicate the place for a tree in the next row, where there should be driven another stake. Repeat the same operation with a second pair of stakes in the outer row, and another point will be determined in the next row, where there must also be inserted a stake. In like manner, continue with all the other stakes, checking, in the meantime, each of the stations by oblique, cross, and longitudinal sights, till the whole be completed. Every tree in such an orchard will be fifty feet from each of its neighbors; but the rows will be only forty-three and three-tenths feet apart; and this distance is to fifty feet nearly as seven is to eight. Consequently, one-eighth of the ground will be saved, as intimated above.

CULTIVATION OF TURNIPS.—No. 5.

Consumption of the Crop.—It is generally admitted, that the nutritive properties of most kinds of vegetables are due to the quantity and quality of the dry matter contained in them, and that their water, although it may serve a useful purpose in filling the stomach, cannot fatten animals, by itself, or contribute directly to make flesh. Hence it would follow, that, from the large proportion of water it contains (about 90 per cent.), the fattening qualities of the turnip must be small. Indeed, experience has shown in the western counties of Scotland, and it is the opinion of the majority of farmers in this country, that cattle cannot be fattened on turnips alone, and that laboring animals fed on roots of any kind, as their chief food, cannot perform their work with ease to themselves or with economy to their owners. It is also well known, that all animals thrive better on a mixed diet, than when kept on the same kind of food, let it be ever so nutritious and rich.

Store-cattle, in Great Britain, are now generally allowed turnips; the old system of just keeping them alive, being almost entirely exploded. In those districts, even, where they are fed on straw and occasionally on coarse hay, with an allowance of turnips, they are ready thrivers when afterwards put to grass, and also prove more true to the butcher. This system of feeding from birth, has greatly gained ground, and cattle of the Short-Horn and other improved breeds, are now brought to the butcher before they have quite completed their second year. This could not be done if they had not been well stored and kept upon healthful food from the beginning.

It is recommended that the food of store-cattle should be supplied at regular periods and by the same man. The first thing in the morning the cribs or racks to be cleared of the unconsumed straw, which should be thrown into the yard. Fresh straw should then be given them, and their troughs thoroughly cleaned, and replenished with a supply of turnips finely cut, as young cattle are often incapable of eating a whole turnip on account of the tender state of their mouths. They should always have in their yard a constant supply of clear, fresh water. After they have been furnished with their breakfast, they ought to be kept as quiet as possible, in order that they may chew their cud in peace. The second supply of food should be furnished be-

fore they become uneasy and call for it, or betake themselves to the dirty straw of the yard to allay their hunger.

The consumption of the turnip-crop by *fattening cattle*, is now regarded as of the first importance; and, on some farms, in England, by far the greatest proportion, in that manner, is disposed of. The cattle, for convenience, are generally tied up in stalls; but sometimes they are turned into one apartment, in lots of four or five together, each having a separate trough, fixed against the wall and guarded by a kind of stake, so that only one can approach it at a time. No animal of a restless or quarrelsome disposition is allowed, on any account, to be put with the others. Many cattle, however, are brought to a high state of fatness, which are fed in yards well protected from cold winds, with a shed partly closed and facing the south.

As in the case of the store-cattle, those under the operation of fattening should be fed regularly and at stated times—cleaned out at the same hour every day, and when fed and cleaned, no person should be allowed to enter and disturb them. There is a saying in some parts of Scotland, that, “every time a byre of cattle is disturbed, a shilling is lost to the owner.” The greatest care should be observed to clean out the troughs every day; as the food left to decay in them, must be particularly annoying and disgusting to a poor beast kept tied with his nose directly over them. When fed on a full supply of turnips, they will require little or no water to drink.

It seldom happens that cattle are entirely fattened on turnips alone, as they would be by far too relaxing. Some other kinds of food should be given them, such as sweet, clean straw or hay, oil-cake, shorts, ship-stuffs, crushed corn, Indian meal, &c. When any one of these articles is used in conjunction with turnips, it should be given at a particular time of day, and the hour by no means changed—there cannot be too much regularity in their management. A lump of rock-salt, sufficiently large not to be taken into their mouths whole, should be constantly kept within reach of the cattle, as they are extremely fond of licking it; besides, it is thought to whet their appetites, promote the secretion of bile, and, in general, is favorable to their activity and health. It is now well understood that turnips, when sliced, afford great facilities to cattle in devouring their food with the least trouble, and render them less liable to become choked; for, when a beast gets a whole bulb into his mouth, he throws back his head, so that the turnip may drop between the molar teeth, and it often happens that it rolls into his throat.

Another very important operation, and one which is too often neglected, is the cleaning of the turnips before feeding them out to cattle. This can readily be done by putting them into a basket and immersing it in a tub, or a pond or stream of water, rolling the turnips about with a stick. On lifting the basket out of the water, it will be found that the turnips will be sufficiently clean.

The feeding of the turnip-crop, or rather a portion of it, by sheep, where it can be practised, is a very desirable method of consuming it. All sheep fed on turnips should also be supplied with hay or straw; but those under the process of fattening should be supplied with some of the richer kinds

of food, such as oil-cake, bean-meal, shorts, ship-stuffs, Indian meal, crushed corn, &c. A precaution, however, must be observed in first giving them rich food, that they be in pretty good condition before they are put to high feeding, and that the rich food be gradually increased both in quantity and quality. The plan of feeding in many of the well-informed parts of England, is, to supply the sheep daily with turnips, in order that they may have them fresh, and eat them as they come, without eating the dainty bits first. When a fresh portion is supplied, it should be done in the *afternoon*, when the sheep are not so very hungry, in consequence of which, there will be less danger of their hurting themselves by over-eating. Sheep fed on turnip-tops, should never receive them wet, either with rain, dew, or snow.

THE DOMESTIC FLORA OF CHINA.—No 5.

Dwarf-Trees.—The dwarfed trees of the Chinese and Japanese have been noticed by every author who has written upon these countries, and all have attempted to give some description of the method by which the effect is produced. The process is in reality a very simple one, and is based upon one of the commonest principles of vegetable physiology. We all know that anything which retards in any way the free circulation of the sap, also prevents to a certain extent the formation of wood and leaves. This may be done by grafting, by confining the roots, withholding water, bending the branches, or in a hundred other ways which all proceed upon the same principle. This principle is perfectly understood by the Chinese, and they make nature subservient to this particular whim of theirs. We are told that the first part of the process is to select the very smallest seeds from the smallest plants, which is not at all unlikely, but I cannot speak to the fact from my own observation. I have, however, often seen Chinese gardeners selecting suckers and plants for this purpose from the other plants which were growing in their garden. Stunted varieties were generally chosen, particularly if they had the side branches opposite or regular, for much depends upon this; a one-sided dwarf tree is of no value in the eyes of the Chinese. The main stem was then in most cases twisted in a zigzag form, which process checked the flow of the sap; and at the same time encouraged the production of side branches at those parts of the stem where they were most desired. When these suckers had formed roots in the open ground, or kind of nursery where they were planted, they were looked over and the best taken up for potting. The same principles, which I have already noticed, were still kept in view, the pots used being narrow and shallow, so that they held but a small quantity of soil compared with the wants of the plants, and no more water being given than what was barely sufficient to keep them alive. Whilst the branches were forming, they were tied down and twisted in various ways; the points of the leaders and strong growing ones were generally nipped out, and every means was taken to discourage the production of young shoots which were possessed of any degree of vigor. Nature generally struggles against this treatment for a while, until her powers seem in a great measure exhausted, when she quietly yields to the power of art. The

Chinese gardener, however, must be ever on the watch, for should the roots of his plants get through the pots into the ground, or happen to be liberally supplied with moisture, or should the young shoots be allowed to grow in their natural position for a short time, the vigor of the plant which has so long been lost will be restored, and the fairest specimen of Chinese dwarfing destroyed. Sometimes, as in the case of peach and plum-trees, which are often dwarfed, the plants are thrown into a flowering state, and then, as they flower freely year after year, they have little inclination to make vigorous growth. The plants generally used in dwarfing are pines, junipers, cypresses, bamboos, peach, and plum-trees, and a species of small-leaved elm (a).

(a) In our August number an allusion was made to the passion the Chinese have for miniature plants, which forcibly reminds us of an incident that occurred on our late excursion over the Long Island railroad. Among our company were Hee-Sing, high priest of the Chinese junk, which had lately arrived in our port, and his no less famous artist and companion, Sum-Sing, both of whom were characterized by their medium size, copper complexions, high cheek-bones, and straight black hair, similar in appearance to our native Indians. They were gaily dressed in loose flowing robes of variously-colored silks, ornamented with gold buttons. They wore scull-caps closely fitting to the head, and from beneath these hung queer looking tails of long hair, falling nearly to the ground. They carried fans in their hands, which they used to screen their faces from the sun as they walked out, and as our ladies do, to blow them cool. They were of course the observed of all observers during the whole excursion. It was the first time they ever had ridden in a rail-car, and they manifested no little alarm at the shrill whistle of the locomotive, as well as the rapidity of its movement. But being somewhat intelligent men, and Hee-Sing understanding English tolerably well, everything as we passed along was explained to their entire satisfaction. Alighting at Suffolk Station, Sum-Sing found growing among the bushes a dwarf whortleberry, in the form of a miniature tree. "Hai-yah," he exclaimed in great delight, "too muchia handsome," and carefully packed it away, no doubt with the view of exhibiting it among his friends on his return to the Celestial empire, as one of the wonders of the Western world.

TEXAS ENTERPRISE.—A correspondent from Nachidoches, Texas, writes as follows in reference to the opening for enterprise near that place. This section of Texas is rapidly rising into notice. We have a most luxuriant soil, and the health of this region is proverbial. Indeed it may be called the Italy of America. Excellent land, well watered and timbered, can be had for \$1 per acre, and the stock run out the year round, without housing. We are now preparing to clear out the river Angelina for steamboat navigation; and then be within fifteen miles of water-transportation to New Orleans.

A WEST wind and an honest man go to rest together.

FOUNTAINS FOR FARM-BUILDINGS.

A GOOD supply of water for farm-buildings is both useful and necessary. It is convenient for cleaning implements and stables; furnishing drink for stock; and is all-important in case of fire. But few things can be more pleasing than to see a stream of pure water in the neighborhood of a farm-yard, as nothing can be more desirable for the general welfare of the whole farm. What deters many from having fountains is the cost of the thing; but the main source of its expense is the excavation of the earth, to lay down pipes, often coming from a long distance, and generally requiring to be buried at a great depth, in order that no part of the pipe should be higher than the level of the water at the fountain-head.

By searching, very often a spring may be found in the vicinity, on elevated grounds, the water of which may be conducted to the farm-yard, although higher land may intervene. This can be done by means of a long syphon made of metallic pipes, with one extremity two inches in diameter, dipped into the well or spring, the pipes climbing to near the surface, and then going down to the barn-yard, terminating by a mouth of half an inch in diameter. In putting down the pipes, care must be observed that they be laid as near as possible to a uniform curve, with no short crooks, and that the perpendicular height of the highest point of the syphon does not exceed fourteen feet above the fountain-head. After the pipes are carefully adjusted and buried up with earth beyond the reach of frost, in the highest point of the syphon there should be made a hole with a screw-stopper, and a stop-cock at the end at the fountain-head. On the mouth of the tube, at the barn-yard, there should also be fitted a small stopper, pierced with small holes, similar to the cover to a pepper-box, in order to afford the escape of the air. To fill the syphon, begin by opening the stop-cock and the aperture at the top, and then pour in water at the latter, until it begins to gush out at the fountain-head, when the stop-cock must be closed. Continue to pour in water until the pipe is completely filled, at which time the screw-stopper should suddenly be closed, and the two extremities as suddenly opened; and the water will run, without interruption, for months. Should there be a failure in the first attempt to fill the syphon it will be owing to the imperfect expulsion of the air, which is not always a very easy matter; nevertheless, with due care, half an hour is generally sufficient, if the pipe is not of great length.

A FINE POLISH FOR MARBLE.—Common wheat-straw, when burnt to ashes, is found to contain a portion of flinty earth in the form of a most exquisite powder, and may be used to advantage in giving the last polish to marble.

STOMACH-PUMP.

THIS is an instrument of great value to the farmer to remove poisonous matters or bad food from the paunch of animals. It is also serviceable for administering glysters, and one pump, with a number of tubes of different sizes, will answer for oxen, horses, or sheep. The instrument consists of a syringe, *a*, Fig. 2, having a side opening, *b*, and an ordinary opening at the bottom, *d*. It is used both for throwing fluid into the stomach, &c., and removing it from the body. Fig. 1 shows the fixture for injections. The extremity, *d*, is placed into the pail of water, &c., and a long probang screwed on to the side opening, *b*; by pumping, the fluid is driven along the probang or injection tube. When used to remove matters from the stomach, the probang is screwed on to the lower end, *d*, and introduced; the fluid from the stomach passes out at *b* (Fig. 2).

Where matters are to be removed from the stomach, tepid water is first injected; the syringe is then unscrewed from the probang at *b*, and screwed on at *d*. It is now a stomach pump, and will draw any thin fluids out of the stomach.

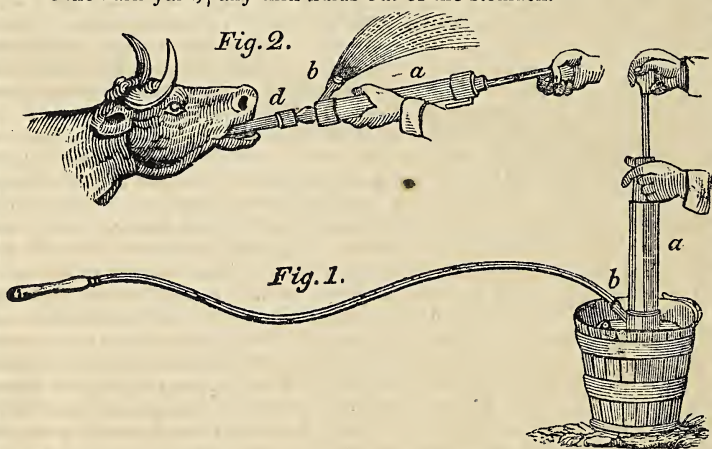


FIG. 84.

The introduction of the pump is effected by the help of an assistant, who holds the animal by a horn and the dividing cartilage of the nose; the operator now takes the tongue in the left hand, and introduces the tube with the right, the assistant holding the head and neck in a straight line, so as to assist the passage. The jaws are kept open by a regular bit of perforated wood, or by any piece of stick introduced between the teeth.—*Gard. Dict.*

HOW TO TOAST CHEESE.—Toasted cheese is much relished by some persons, but it is seldom well prepared. The following directions are said to come from a gentleman who prides himself on his "goostful" appetite. Cut the cheese into slices of moderate thickness and put them into a tinned saucepan, with a little butter and cream. Simmer very gently until quite dissolved. Remove it from the fire, allow it to cool a little, and add some yolk of egg, well beaten; and then make it into convenient shape, brown it before the fire, and eat while it is warm.

CHOICE OF TREES AND SHRUBS FOR CITIES AND RURAL TOWNS.—No. 5.

THE *Kentucky Coffee-tree* also occupies a wide geographical range, and is found more or less planted, as a shade-tree, in most, if not all the Middle and Northern States of the Union. Being very hardy, and remarkable for the beauty of its dense foliage, in summer, it forms an appropriate object for planting in parks, and for lining broad avenues, or public highways. But, from its large size, and the unsightly aspect presented by its blunt, naked branches in winter, it seems unfitted for the streets of cities and densely populated towns.

The *Balm of Gilead* (poplar), on account of the medicinal value attached to its buds, and the delightful odor they diffuse through the air, in spring, has been more frequently planted in the neighborhood of human habitations than any of its congeners. It has the advantage of growing in almost every soil, however poor, where it readily attains the size of a second or third-rank tree; but as a subject for planting in streets near dwellings, or in gardens, it is particularly objectionable on account of its long, creeping roots, which run just below the surface, and throw up numerous suckers, difficult to eradicate, when wounded by the spade or plow. And to these objections, may be added the cottony, worm-like aments, with which the ground is strewn, soon after the tree is in flower, and what appears to be more serious still, is the liability of its branches and even the trunk itself, when very tall, to be broken, or shattered by the wind.

The *Catalpa*, from its large bunches of white flowers, marked with purple and yellow spots, with which it is clothed in summer, has been extensively planted in streets, parks, and other ornamental grounds, from the State of Connecticut to Georgia, and westward beyond the Mississippi. This tree is of rapid growth until it reaches the height of twenty feet, which, in a deep, free soil, it will usually attain in ten or fifteen years. Seedling plants, under favorable circumstances, usually begin to bloom at about the age of twelve years; and in situations where the wood becomes well ripened, they are annually loaded with flowers, making a splendid appearance, not only by the large size and lively colors of the blossoms, but by the fine, pale green of their leaves. The *catalpa*, however, does not seem fitted for the general purposes of ornament, as it differs from most other trees by its wide-spreading head, disproportioned in size, when compared with the diameter of the trunk, and in the fewness of its branches, which are late in putting forth leaves in spring, and being among the first to shed them on the appearance of frost in the fall.

The *Silver-leaved Maple*, or *White Maple*, as it is sometimes called, of late, has become a great favorite for ornamenting the streets of cities and populous towns, for which purpose it would be admirably adapted, were it not for the divergent character of its branches, and the great height to which it arrives at an age of twenty or thirty years. The branches are believed to form a head more spacious, in proportion to the size of the trunk, than almost any other tree; and instances are on record where this species has attained the height of fifty feet in twenty-five years. A case in point is now before me, in Brooklyn, where the branches of two

rows of this tree have completely over-arched the public way, although they have not yet been planted fifteen years. There is another objection to this tree when grown near houses; that is, its leaves are preyed upon by several species of insects, but to a less degree than the linden, the abele, the horse-chestnut, and the elm. As an ornamental tree, notwithstanding these objections, the silver-leaved maple is highly prized, on account of the rapidity of its growth, the graceful, divergent character of its branches, the beauty of its leaves, and the profusion of its large early fruits, or keys. It is admirably adapted for large parks as well as open lawns, and for lining broad avenues, or public highways. Like the weeping willow, with which it forms an appropriate associate, it serves an admirable purpose for overspreading artificial ponds, and other waters, with a mirror-like surface, where, as Michaux expresses it, "the brilliant white of the leaves beneath, forms a striking contrast with the bright green above, and the alternate reflection of the two surfaces, in the water, heightens the beauty of this wonderful moving mirror, and aids in forming an enchanting picture."

The *Red-flowered Maple*, or *Soft Maple*, as it is usually called, from its wide geographical range, and great resemblance to its congener, the sugar-maple, has long been planted as an ornamental tree in all the older States of the Union. It is attacked by the same species of insects as the silver-leaved maple, its only objection; and whether viewed in the beauty of its flowers, in early spring, or admired for its red fruit, or keys, in the beginning of summer, or its crimsoned foliage, in autumn, it deserves a place in every situation recommended for the sugar-maple; particularly in localities where the latter will not grow.

The *American Ash*, or *White Ash*, as it is generally called, although occupying a greater extent of territory than most other trees, has not hitherto been much cultivated, either for ornament or other use; but, from the rapidity of its growth, the great value of its timber, when fully grown in open situations, and the beauty of its foliage, which is rarely attacked by insects, this tree deserves to be extensively planted, in lines for bordering roads, and in small groups for ornamenting pastures, parks, and the larger class of lawns.

The *Black Walnut*, from its wide geographical range, and the value attached to its timber and fruit, as also for its shade, has been much planted in the neighborhood of dwellings, in almost every part of the Union. When isolated, in an open space, its branches extend in a horizontal direction to a great distance, forming a spacious head, and consequently an ample shade. Hence this tree can be advantageously substituted for the American elm, for planting in pastures, in parks and lawns, or along public highways.

The *Stag-horn Sumach*, in the Northern and Middle States, is frequently to be met with in front of rural dwellings, where, when trained to a single stem, it forms an interesting little tree, and well deserves to be cherished, from its large and beautiful foliage, its various colors in autumn, and its spikes of dark-red fruit, which diversify the scenery of a northern winter. But as it is of an open, irregular growth, and of not many years' duration, it should

never be placed where it is intended to serve as a screen. The most striking situation in which it can be placed, is when standing alone on a lawn.

The *June-Berry*, or *Shad-blow*, is occasionally to be met with, in gardens and collections, where it is much esteemed, in early spring, for its profusion of flowers, and in autumn, for the fine dark-red assumed by its leaves. Adding to these properties, its limited growth, agreeable fruit, which is eagerly sought after by numerous species of frugivorous birds, and its peculiar adaptation to the climate of almost every part of the territory of the United States, it well deserves a place in every garden and lawn.

The *Osage Orange* (*Maclura*), from its great resemblance to the common orange, its beautiful shining foliage, which it retains longer than almost any deciduous tree, and from its fine, large, golden fruit, is universally admired wherever it will grow. It is perfectly hardy in every State in the Union, south of Massachusetts, is free from the attacks of insects, and is unsurpassed for hedges by no other tree.

To the fore-mentioned trees, might be added the American holly, and several species of the pine and fir tribes; but as the cultivation of evergreens, in themselves, would form the subject of a long essay, as also would our native nuciferous and fruit-bearing trees, as well as our flowering shrubs, they have been necessarily omitted to give place to the remarks on the injudicious selection and improper manner of treating the shade-trees of some of our cities and larger towns.—*Trans. of N. Y. State Ag. Soc.*

LETTERS FROM THE SOUTH.—No. 12.

No country of equal extent on the face of the globe seems to possess such a prodigal affluence, such an unstinted measure of agricultural wealth as the alluvial portions of Louisiana. With an area of delta formation of thousands of square miles, which no combinations of earth or organic materials, for the highest production of vegetable fertility, ever surpassed; with wide-spread luxuriant prairies and rolling productive uplands, every acre of this State seems teeming with the elements of vegetation, the foundation of future wealth, and the sustenance of future millions. And every section of it is accessible within a convenient distance, by navigable waters, or admits of the easy construction of roads. Even the waters which pervade and border the State, would furnish sufficient food for a population larger than now inhabits it. With a climate generally mild and healthful, and with such redundancy of resources for the support of life and the acquisition of wealth, it would seem almost superfluous to suggest the means or the motives for the attainment of either. Actual want or suffering under such circumstances cannot exist, but that absence of individual prosperity is often to be found, that creates a morbid restlessness under present exigencies, and induces efforts for its alleviation in the removal to some fancied *El Dorado* in the yet unexplored wilderness. Such would do well to consider that there is scarcely an acre either of land or water, in Louisiana, that cannot be put to some profitable use, and that, too, near a market whose commerce, reaching to every part of the habitable globe, renders surfeits or over supply absolutely impossi-

ble. Let us consider these products somewhat in detail.

Sugar may be assumed as the leading staple of the State at the present moment. In 1845, there were produced here from nine hundred and fifty-five sugar-mills, 207,337,000 lbs. of sugar, and about 9,330,000 gallons of molasses, amounting together to near \$15,000,000. It is estimated there will be during the present year, 1,240 mills, which, at the same ratio, will carry production up to about \$19,000,000 in this article alone. Accidents, mismanagement, and unforeseen casualties from the elements and the season, will probably lessen the quantity; yet it is certainly within reason to assert, that scientific and careful cultivation, the use of better machinery, the general application of well established chemical principles in the manufacture of the cane, would swell the amount far beyond the assumed maximum.

The extension of cane-cultivation is undoubtedly advancing more rapidly at the present moment than at any former period. Each succeeding year witnesses its extension over new territory. It is descending on both banks of the river nearly to its mouth; it is climbing still higher on the main stream and its tributaries, and it is fast occupying every one of its innumerable bayous or outlets; while more thorough ditching, and especially the adoption of draining-wheels, is rapidly bringing into use larger portions of tillable land in the rear, and making all far more productive. The last we conceive to be one of the most efficient means for reclaiming vast bodies of land for the future cultivation of the cane. Still further means for the augmentation of the crop are to be found in much deeper and more thorough plowing; the use of the subsoil-plow; manuring with the *bagasse* and trash buried between the furrows; and a proper rotation with the cow-pea or other green or vegetable fertilizers.

Cotton may be ranked next in the order of the staples of this state. But a few years since this was the leading product; but while it has been reclaiming new territory and advancing in quantity, in much of the old, the greater profit afforded by the cane has enabled the latter to usurp many of the plantations hitherto exclusively devoted to the former. In the cultivation of this leading export of America, much improvement has been witnessed within the few past years; and although excessive rain or drought, the army-worm or caterpillar, blight, mildew, or rust, occasionally disappoints the hopes of the planter, yet a closer study of the habits and diseases of the plant, a careful selection of seed, the introduction of new and improved varieties, and a nicer and more careful cultivation, are all aiding to swell the aggregate of the cotton-fields.

Maize, or Indian corn, ranks next among the products of the State, though what is raised within it, enters to a small extent only in the exchanges of commerce. It is generally consumed on the plantations where it is produced, and its value is absorbed to swell the exports of the two former staples. If viewed, however, as it is, as an article of luxury to the planter and an indispensable article of food for the laborer, the working animals, swine, and poultry, it assumes a vast importance among the leading objects of attention, and much beyond

the measure assigned to it at the current rates in dollars and cents. Besides the large expense of preparing, sacking, and sending to market, there to pay additional sums in freight, drayage, storage, "ratage," and commissions, there is a corresponding expense of purchasing, freight, drayage, etc., in bringing it back to the plantation for consumption. All these several items must first be subtracted, before we can get at the relative value of corn raised on a remote plantation and the one where it is consumed. If we go a step further, and consider its presence or absence in our granaries as involving the question of sustenance or starvation, of life or death (of which we have at the present moment so terrible an example in Europe), we shall hereafter place a higher value on this article than we have hitherto done since the early settlement of the country. What has occurred elsewhere may occur here, and exemption from any particular calamity hitherto, is no guarantee against its presence hereafter. The cultivation of maize on nearly every plantation within this State, to the extent at least of its own consumption, ought to be considered a fundamental principle in its management.

Although not equally adapted to the highest production of corn, as some of the choice lands between the great chain of northern lakes and the south line of Tennessee, yet where well drained and properly treated, the delta of Louisiana everywhere gives a remunerating crop of corn; and the lighter soils of the uplands require but a judicious system of tillage, to make a fair return in this crop for the labor and expense bestowed upon them.

If considered in an economical or domestic point of view, Indian corn, throughout the valley of the Mississippi, is the most profitable crop that can be raised; as one man's labor will produce more human and animal food, than in the cultivation of any other one product. With the best plows, a planting machine, cultivators, and harrows, one person can easily plant, cultivate, and harvest fifteen or twenty acres with four months' labor, that will produce an average of forty bushels per acre, a quantity sufficient to sustain the existence of forty or fifty persons for an entire year. Like the cane, also, it is subject to fewer accidents or maladies than any other crop. Nothing but frost, excessive moisture, poverty of the soil, or negligent management, will prevent a good crop. The first may be always avoided by a late planting; thorough drainage effectually removes injurious moisture; deep plowing and fine pulverization, and especially the use of the subsoil-plow, will mitigate, if it does not wholly obviate, the effects of drought; and rotation of crops and occasional application of green manures, if others are deficient, will be sufficient to prevent exhaustion.

Rice, at one time, formed an important staple of the State, and is now produced in quantities far greater than is generally supposed, yet to an extent much less than the soil, climate, and value of the article will justify. The rice-lands of the Carolinas and Georgia are considered among their most valuable, the best being worth five hundred dollars per acre, while the best cotton-lands will not command more than fifty. Why should they not be of equal value here; the want of skilful management, we fear, must be the only answer. Next to maize, rice

is capable of affording the largest amount of food to man. In localities precisely suited to it, this capacity even much exceeds its rival, and nowhere, it is believed, can it be raised more advantageously than in this State. Immense bodies of the swamps and low-lands throughout the delta, are easily susceptible of being every way fitted for the highest and most profitable production of this grain. Suitable dykes or leveés, proper ditches, both for draining and flooding the fields, with the addition of draining-wheels, where their presence is necessary, are all that is essential to secure millions of acres for this object, that are now solely tenanted by every worthless specimen of the amphibious vegetable and animal creation. Rice may also be very advantageously grown upon the uplands, and even the highest pine-soils will yield enough to make it an object of attention. But in such, great care is requisite to prevent exhaustion, which is scarcely possible on the rich alluvial bottoms that can be properly flooded, as the turbid water that over-spreads the fields, comes to the support of the crop, charged with every necessary ingredient of vegetable nutrition.

One reason why rice has not hitherto been made an object of greater attention here, is the want of proper machines for planting and preparing for market. Those of the latest and best construction have been for some time used in the Atlantic States, and may now be had in this city. With these at command, with a soil, climate, and the facilities for irrigation so entirely adapted to the purpose, there is no good reason why rice should not again become one of the most important branches of agricultural attention in Louisiana.

Indigo was the leading product of this State a century since, yet now it is scarcely cultivated. Two millions of acres of the most fertile cotton-lands within the State are every way adapted to its profitable growth. Its culture here was gradually abandoned for the greater profits afforded by other articles, particularly sugar and cotton. The demand for it from the extension of our manufactures, is annually increasing its consumption in this country, and the application of the latest chemical science to its maceration and preparation for market, would undoubtedly render this an object well worthy of attention at the present time.

Tobacco may be raised here of the finest quality and to an unlimited extent. If production be combined with its manufacture, for the supply of this and others markets, few objects would better pay the labor and capital invested than this. The choicest qualities of leaf are produced on this soil, which are scarcely surpassed by the best brands of the Havana.

Madder, woad, weld, saffron, sumach, etc., used primarily for dyes, and already in large demand by the northern manufacturers in this country, can be raised here with decided profit. The first is also a valuable food for cattle; saffron is used medicinally; and the astringent properties of the sumach render it a substitute for the tannin of the oak and hemlock where they do not exist. Roots and almost every species of culinary vegetable can be raised to the full extent of the wants of the inhabitants, and the sweet potato may be grown for exportation with decided profit.

Of fruits, the orange and the fig thrive remarkably within the State, and the former may be exported, and with equal advantage to the planter as any other crop. The peach, the apricot, and nectarine produce largely, and of the finest quality, upon the uplands, when properly treated. The plum and the apple, the olive, the lemon, the lime, etc., may, with proper attention, be reared on such soils and in such localities as are suited to their habits and characteristics. The wild mulberry grows spontaneously in the forests of this State; and the *Morus multicaulis*, and varieties of the Italian, succeed admirably on the drier soils. This ensures success for the silk-worm on the uplands wherever introduced. The equable temperature and condensed nutritive foliage afforded by such localities (and they sweep around a larger portion of the northern part of the State), will undoubtedly produce healthy silk-worms, and as heavy, valuable cocoons as are yielded in any part of the world. Wm. G. Hewes, Esq., formerly from Boston, but for many years a resident of this city, has placed in my possession specimens of his first attempt in the production of the cocoon, which I have nowhere seen surpassed on this continent.

These are a few among the many objects that should arrest the attention of the intelligent and enterprising agriculturist before seeking them further South and West, and still more remote from the seaboard, where, for a coming century at least, he must look for the most profitable market for his products.

The false ambition for large plantations, and operations and achievements beyond the legitimate means of the owner, has been and still continues to be, the bane of citizens of our new States. This policy may result in giving to the few, large landed estates, yet really less pecuniary income, than would result to the shrewd manager where a denser population existed, and more aggregate and active wealth circulated among the mass, the necessary result of a greater and more intense production. In looking over some of the plantations of this region, where large bodies of land are either wholly or partially unsubdued, and the remainder admits of much higher cultivation, one cannot but be forcibly impressed with the consideration, that the old maxim, *divide and conquer*, if applied to southern plantations generally, would have a much more pregnant and salutary bearing on the welfare of the human race, than was ever assigned to it by the ambitious Roman. *A little land well tilled*, while vastly more beneficial to the State and the middle property-classes, is, perhaps, of equal or even greater advantage to the opulent, than the present system of overgrown and half cultivated estates. A division of labor, and a variety in the objects of agricultural pursuits, are equally essential to call into profitable action the various traits of human character, the attainment of the greatest good to the greatest number, and the full development of the vast agricultural resources of this great State.

The foregoing embrace a few hints which may be successfully and almost indefinitely extended by more experienced residents, for the more effectual and profitable augmentation of the present and future products of Louisiana.

R. L. ALLEN.

New Orleans, May, 1847.

WESTERN AGRICULTURE—CORN-COBS.

I MADE a flying visit to our old friend Henry L. Ellsworth, of Patent Office memory, one day last month. He is now a resident of La Fayette, Indiana, where he is farming pretty largely on the Wea Prairie, about seven miles out, on which he has a thousand acres of Indian corn in one field. The uncommon high price of corn this summer, has been the moving cause of growing many an extra acre of it in the Wabash Valley, where, if it ripens well, it will tell a pleasing tale, not only to the cultivators, but to the starving millions of Europe.

Mr. Ellsworth is as full of enthusiasm as ever, and no less busy than he was in his office at Washington. He is an owner and manager of a vast amount of land, which he is selling, leasing, and improving, and which, together with all the business operations that he is carrying on, keeps his office crowded with the multitudes who deal with him. Yet he finds time to be continually trying some experiment, or studying out some improvements for the benefit of the agricultural community.

I saw six pigs in as many pens, just big enough to hold each occupant without exercise, which he was feeding on corn in the ear, corn ground, but fed raw, and corn-meal made into mush—two upon each kind. The pigs were all alike in age, breed, size, and weight, when commenced with, and after being fed a certain time with carefully-weighted quantities of food, they are re-weighted and weights noted, and then those which had been fed upon one kind, are changed to another and so on; and when the experiment is finished, he assured me he would publish the table. The experiment thus far is very largely in favor of the mush, bidding fair to produce enough to pay toll and trouble for grinding, as well as for cooking, and leave a profit. The number of pounds of good thick mush, that one hundred pounds of meal, well-worked, will make, is astonishing to any one who has never thought much upon the subject. It will not fall much if any short of *six hundred pounds*. Mr. Ellsworth's kettle holds just fourteen pounds of meal at a charge, and several accurate weighings give over eighty pounds when well cooked, and I saw myself that no more water was used than the meal would absorb. But it must be cooked—not merely scalded. A little salt is added, and occasionally a little sulphur.

Mr. Ellsworth assured me that he had proved the mooted point of nutritive food in corn-cobs. He says, "*hogs will live and thrive upon well ground cob-meal alone!*" At first they did not take hold. I then added a small quantity of meal of the grain, principally to make the mass ferment quicker, and then they eat the whole, and did well. I had great difficulty in getting the cobs ground. Millers are so well satisfied in their own minds that cobs are good for nothing, that they are not willing to let the experiment be tried whether they are nourishing or not. I am satisfied that twenty-five pounds of corn-meal added to one hundred pounds of cob-meal, is more valuable for feed for *growing* stock, than seventy-five pounds of corn-meal alone." Such is the language of Mr. Ellsworth. Experiments of this kind should be further tried. One-fourth of the weight of a bushel of ears of corn,

nature never intended should be thrown away, and cobs upon large corn-farms in the West are literally thrown away. They are neither used for food, fuel, feed, nor manure; for the latter is considered a nuisance.

After my visit to Mr. Ellsworth, I met with our old friend, Mr. Colt, of New Jersey, at the great Chicago Convention. Owing to the vast crowd of people and business, I did not have the opportunity that I wished to glean intelligence from so enterprising a Jersey farmer as he is well known to be; but as a matter of course, the things that our minds most did dwell upon were discussed over the dinner table, where I mentioned my conversation with Mr. Ellsworth, upon the subject of corn-cobs, and my belief that they would be highly advantageous to feed in small quantities to all kinds of stock, solely on account of the alkaline properties that many an ancient dame knows that they possess. For oft has she made cob-ley when pearlash was high; and even if a little should be mixed in human food it would not injure it; and in the stomach of fattening hogs particularly, it would prove an excellent corrector of acidity. This idea was nothing new to so inquiring a mind as that of Mr. C., and he told me that he had tendered a donation of one hundred dollars to the American Institute for a complete analysis of corn-cobs, so as to prove whether there was any nutritive quality in them.

But my opinion is, that if the hundred dollars were spent in actual experiments of feeding live stock with cob-meal, a much more satisfactory result might be arrived at, than can possibly be done by any chemical analysis. If Mr. C. himself will undertake the matter, I am sure that he will prove some facts of vast importance to the corn-growers of the United States. Where cobs are to be had in vast quantities, if they were used as fuel and the ashes carefully saved, I have no doubt that they would be found more than twice as valuable as wood-ashes for any purpose. If cobs are not worth feeding to stock, and not of sufficient value as manure or fuel, to be worth saving, then I am greatly mistaken, and hope to have my mind enlightened with the truth; and when that is done I shall not feel so grieved to see this bountiful product of nature lying knee-deep across the public highway in front of the door of many a hog and hommony farmer of the West. But enough about one of nature's productions which the world estimates as good for nothing.

But there is another subject that was talked over by Mr. Ellsworth and myself which I hope to see discussed in your columns, and which will afford your Reviewer an ample text, and which I hope he will discuss with all the candor that his somewhat captious pen will allow him, and not ridicule the idea because it is a new one. It is packing flour and meal, and in fact, all dry substances usually packed in barrels for a foreign market, in square packages. A barrel of flour put up in a neatly made smooth chest, would be something new. The advantages in form over that of the old one would be many, as we view the matter. *Firstly*, not one tree in a hundred will make barrel staves, that will make good sound boards. *Secondly*, they can be made cheaper than barrels. The boards can be sawed, planed, and sides and ends dove-tailed together—

bottom and top cut to match in—all by machinery of the simplest forms and rapid in its operation. All but the top should be well nailed, and cut nails are cheaper than hoops. The top should be put on with wood-screws, which can be done with a very simple machine, and much quicker than the most expert workmen could head a barrel; the screws being made of a new form on purpose for this use. It may be found necessary to put a very light iron hoop around the ends when shipped on a long voyage. *Thirdly*, the important advantage saved in stowage, in wagon, railroad-car, canal-boat, on shipboard, or in store. *Fourthly*, not one atom of leakage. Every one who has seen flour carried upon a railroad, is aware that a great many barrels which were made of timber not well seasoned, leak quite an item of the quantity to a starving man. The boxes not admitting leakage, if exposed to rain, would also save an item. *Fifthly*, these boxes in England, where deal-boards are sold by the pound, would always be worth more than cost, when emptied of their contents, either to work up or to be used as they are for household use; for, by adding a pair of butts, there is a good chest or cupboard; or they would always sell to dry goods or shoe-dealers for packing-boxes. Indeed, the lumber is so cheap in many of the grain-growing districts, that it would be found profitable to sell them after being emptied, in our cities. *Sixthly*, the absurd old fashion of selling 196 lbs. of flour in a package, would be done away with, and the boxes would always be of exact sizes, holding 50, 100, 200 lbs. &c., and sold by weight. And *lastly*, what are the objections? Let them be fairly stated and they shall be fairly answered (a). But I am at the end of my sheet and yet not half to the end of my story, but it must be deferred. SOLON ROBINSON.

Crown Point, Indiana, July, 1847.

(a) We do not agree with our correspondent in substituting boxes for barrels. 1. Economy of timber is not yet an object in this country. 2. They cannot be made so cheap as barrels, as these last are extensively made by hand at 25 cents each; and the introduction of the recently-invented barrel and stave-machines will probably materially further lessen the expense. 3. Stowage is no object, as cars, boats, and vessels already stow all the weight they can carry. 4. Leakage with good barrels amounts to nothing, and with poor boxes, would be fully equal to poor barrels. The thin timber used for the former is more quickly and certainly seasoned than the latter. 5. Second-hand barrels are worth as much in proportion to their cost, as second-hand boxes after arriving at their destination. 6. If it is absurd to sell 196 lbs. of flour in a package, it may be altered to packages of 50, 100, or 200 lbs. barrel-shaped, equally as if squared. 7. Boxes of the same capacity and weight as barrels are vastly weaker. 8. The breakage and waste in consequence, and the extra expense of the interminable rolling necessary from the mill to the bakery, would much increase expense of transportation. We can roll two barrels with more facility than one square box.

LIME, improperly or prodigally applied, enriches the father, but impoverishes the son.

HINTS FOR THE SOUTH.

In looking over the pages of the Agriculturist, and other journals of the day, I often see articles respecting the improvements of the South. I notice the different improvements in planting, rearing of stock, and agricultural implements; I like them all, and wish these improvements could be brought about; but there it is, when I look around and see so much, speaking of desolation and decay, my heart fails me and I begin to be fearful that the South never will be redeemed from its state of thralldom. If you speak to the planters about raising so much cotton and not turning their attention to other things, or at least divide their labor, they will say, "Oh, well, I know it—I know we are ruining ourselves, but it cannot be helped. We are in debt and must make cotton to work ourselves out."

We have to buy our own meat both for our tables and our negroes. This takes the work of some five or six hands. Then we have corn often to buy, and taxes to pay, which, with us, are extremely onerous; also, negro-clothing, plows, shoes, medical bills, horses, mules, and store accounts to pay, and at the end of the year, if there is no interest or instalment of some bank debt to pay, the remnant of the good old times of 1836-7, why, even then, out of a crop of six or seven thousand dollars, we hardly have enough left to pay our overseer. This is a true picture of the South. To be sure, some of our most enterprising planters (and among them I will name Col. D. J. Fluker, of this parish) are raising a small portion of their meat; but not a tithe of what they use. This is a very important item, and one which would save many thousands to the South if it were otherwise.

I would be obliged to some of your well-informed Southern correspondents if they would give a page or two of advice respecting the rearing, education, and management of hogs, from the time they are ushered into an unfeeling world to that period when they are destined to grace the table of a negro. We can afford to be dependent on the West for our table-meat, but we should raise that on which we feed our negroes, and not be forced to pay from \$15 to \$16 per barrel for pork. There is one difficulty in the way. Our negroes kill off the pigs as fast as they appear. We should also be able to raise our own wheat here. It has been cultivated successfully in Mississippi, and I see no good reason why we cannot *flour* it ourselves.

In regard to negro-clothing, I suppose we must be content to be supplied with Lowells and Linseys from the looms of the North until we have a manufactory of these articles in the South, which is well able to support several. Do you know why cotton-bagging and bale-rope, and twine cannot be made at home, and thus absorb many a bale of cotton which would find its way to the North or to England, the genius of which country will manufacture and re-ship it to us with a thousand per cent. added? I should also like to know what is the best method of taking care of stock which have to depend on what nature provides for them. How disgraceful it is to a planter to see all through the winter his stock, both old and young, standing thin as a shadow, shivering under the lee of some fence corner, and starved, turned out "to root or die" on

a scanty winter-pasture. This is what has killed all the fine Durham and other stock. So it is with mules and horses. Is it not possible to build some kind of a shelter for stock to shield themselves from the cold piercing blasts of winter? It appears to me that the manure which could be collected from the shelter in the spring, would in one year pay for erecting it.

Can anybody tell me also what will make a pear-tree bear which is a scion from a bearing-stock? It blooms well and puts forth leaves in profusion, but in a short time the blossoms all fall off. So it is with my cherry and apple-trees (a).

J. S. PEACOCKE.

Belgrade, E. F. La., July 27th, 1847.

(a) Our correspondent does not state the nature of the soil in which his trees are planted, nor whether they are situated on upland or the Mississippi bottoms. Apples, pears, cherries, peaches, &c., we believe do not well succeed in the latter; but whether this is owing to any deficiency in the composition of the soil or to the heat of the climate, we have no means of knowing. If the trees are located on the upland, we would recommend that a compost, made of charcoal, wood-ashes, shell-lime, and a liberal dressing of stable-manure be added to the roots, and that the trunks of the trees be thoroughly scrubbed with soap-suds. If they are situated in the low lands, perhaps a dressing of potash, shell-lime, and barn-yard manure would have the desired effect.

We hardly think the warmth of climate can be the total cause of the failure; for, during the past summer, according to the Alabama Planter, the Mobile market was abundantly supplied with apples of the growth of the immediate vicinity, which is in about the same latitude as Baton Rouge. "Among these apples, were large greenings, pippins, and russets of the Northern States. The first grew remarkably large. The others, when fully ripe and mellow, are represented to have been of superior flavor and excellence. Coming to maturity so early in the season, when Northern and Western apples are not to be had, they command a handsome price, and pay better, perhaps, than any other product in our market. This settles the question conclusively, which has been so long mooted, that good apples could not be raised in this latitude. Here, the small trees brought from the North, attain in five or six years a large growth, and the russets, greenings, pippins, &c., which in Massachusetts scarcely reach maturity before winter, in this climate ripen on the trees in August and September. The ripening is in succession, the fruit most exposed to the sun and air, first maturing, and are gathered and sold as they ripen. So superior, remarks a Northern writer, are these apples thus ripened, in flavor, size, and excellence, that they can scarcely be identified with the same kinds of northern growth. This rapid maturing is of course followed by a corresponding decay, but in consideration of the early yield, cultivators will not deem it too expensive to supply the places of the failing trees with fresh importations."

A full reply to the inquiries other than fruit-trees will be given in the December and subsequent numbers of this periodical

List of Premiums

Awarded at the New York State Cattle-Show and Fair at Saratoga, September, 1847.

DURHAM CATTLE.

Bulls over three years old.—1st, Bell & Morris, Westchester county, Marius, \$20; 2d, H. N. Cary, Mercey, Oregon, \$15; 3d, J. B. Packer, Charlton, Tecumseh, Herd Book.

George Vail, for his bull Meteor, received certificate. The committee would mention here as coming in this class the justly celebrated bull, Meteor, belonging to Mr. George Vail, of Troy, which was on the ground for exhibition merely; having taken the first premium at a former show he was excluded from competition at the present. We think he stands unrivalled.

Two year old Bulls.—1st, Z. B. Wakeman, Herkimer county, Young Meteor, \$15; 2d, George Vail, Troy, Buena Vista, \$10.

Yearling Bulls.—1st, E. P. Prentice, Mount Hope, Beppo, \$10; 2d, D. D. Campbell, Schenectady, \$5.

Cows.—1st, George Vail, Hilpa, \$20; 2d, E. P. Prentice, Charlotte, \$15.

Two year old Heifers.—1st, Z. B. Wakeman, Sylvia, \$15.

Yearling Heifers.—1st, Geo. Ohlen, Schenectady, Lilly, \$10; 2d, D. D. Campbell, \$5; 3d, Jane T. Gould, Troy, Jenny, Herd Book.

In addition to the cash prices mentioned, each of the above persons received a copy of the American Herd-Book.

Bull Calves.—1st, Z. B. Wakeman, Kirkleavington \$5; 2d, George Vail, Major, Washington's Letters.

Heifer Calves.—1st, Geo. Vail, Willy 4th, \$5; 2d, Geo. Vail, Willy 3d, Washington's Letters.

HEREFORDS.

Bulls three years old.—Geo. Clark, Otsego co., Major, \$20.

"two" Edward Wells, Fulton co., Fulton, \$15

Cows.—Edward Wells, Adelaide, \$20.

DEVONS.

Bulls three years old.—Nelson Washburn, Butternuts, Otsego county, Baltimore, \$20.

Bulls one and two years old.—1st, S. A. Law, Meredith, Delaware county, Rover, \$15; 2d, Nelson Washburn, \$10.

Bull Calves.—1st, Nelson Washburn, \$5; 2d, Nelson Washburn, Washington's Letters.

Cows.—1st, Nelson Washburn, Connecticut, \$20; 2d, same, Baltimore, \$15.

Heifer Calves.—1st and 2d, Nelson Washburn, for his heifer calves, \$5 and Washington's Letters.

AYRSHIRES.

Yearling Bulls.—E. P. Prentice, Mount Hope, Dundee, \$15.

Cows.—1st, C. N. Bement, Albany, Fairy, 5 years, \$20; 2d, E. P. Prentice, Ayr, 9 years, \$15.

Two year old Heifers.—1st, E. P. Prentice, Mida 1st, \$15; 2d, C. N. Bement, Maggie, \$10.

Bull Calf.—C. N. Bement, Rhoderick Dhu, \$5.

Heifer Calf.—E. P. Prentice, Mida 2d, \$5.

CROSS AND NATIVE.

Three year old Cows.—1st, John Lee, Cambridge, Washington county, \$20; 2d, N. Washburn, \$15; 3d, Phineas Fletcher, Saratoga Springs, \$10.

Two year old Heifers.—1st, C. N. Bement, \$15; 2d, N. Washburn, \$10; 3d, David Gillet, Butternuts, Otsego county, \$5.

Yearling Heifers.—1st, John Lee, Cambridge, Washington county, \$10; 2d, C. N. Bement, \$5; 3d, Joshua Bliven, Saratoga Springs, Fanny, Vol. Transactions.

Heifer Calves.—1st, John Lee, \$5; 2d, H. H. Lawrence, Saratoga Springs, Washington's Letters.

Bulls.—1st, Mynard Devoe, Saratoga Springs, Col. Tour; 2d, Joseph Wood, Greenfield, Washington's Letters; 3d, Daniel Beers, Ballston, Transactions.

Best yoke of Working Oxen.—1st, Elon Sheldon, Sennet, Cayuga county, aged 4 and 5 years, \$15; 2d, Pliny Gould, East Nassau, Rensselaer county, 4 years old, \$10; 3d, John Lee, pair twins, 5 years old, Transactions.

Three year old Steers.—1st, Elon Sheldon, \$10; 2d, David Gillett, \$3; 3d, James S. Wadsworth, Genesee, Livingston county, Transactions.

Best ten yoke Steers.—James S. Wadsworth, \$15.

Best two year old Steers.—1st, Elon Sheldon, \$10; 2d, Lewis E. Smith, Halfmoon, Saratoga county, \$5; 3d, H. N. Cary, Marey, Onondaga county, Transactions.

Yearling Steers.—1st, A. Gilbert, Hamilton, Madison county, \$3; 2d, James P. Noxon, Stillwater, Saratoga county, \$5.

Boys training pair three year old.—J. N. Adams, Butternuts, Colman's Tour.

Training pair Yearling Steers.—A. S. Gilbert, Colman's Tour.

Milk Cows.—1st, Ambrose Stevens, New York, Durham cow, Grace, 6 years old, Diploma; 2d, E. P. Prentice, Durham cow, Esterville, 5 years, Herd Book; 3d, H. N. Cary, Durham

heifer, Rose, 3 years, Transactions; 4th, John Lee, native cow, Trans.; 5th, H. H. Lawrence, Trans.; 6th, Wm. Wolford, Albany, Red Daisy, Trans.

FAT CATTLE.

1st, Warren Halsey, Trumansburgh, Tompkins county, \$15; 2d, Edward Munson, Sennet, Cayuga county, \$10; 3d, John B. Holmes, Saratoga, Colman's Tour.

FAT SHEEP.

1st, Z. B. Wakeman, Herkimer, \$10; 2d, J. McD. McIntyre, Albany, Colman's Tour; 3d, L. J. Van Alstyne, Canajoharie, Trans.

HORSES.—All Work.

Stallions.—1st, Joseph Milliman, Greenwich, Washington county, Chief Justice, \$15; 2d, Simeon Christie, Mayfield, Fulton county, Young Dread, \$10; 3d, Daniel A. Cornell, Pittstown, Rensselaer county, Peacock Diamond, Youatt on the Horse; 4th, Lorenzo M. Lown, Sandlake, Rockingham, Vol. Trans.

Mares.—1st, J. B. Burnett, Syracuse, \$15; 2d, Joseph Daniels, Greenfield, \$10; 3d, Henry W. Dennis, Saratoga, Youatt; 4th, Mynard Devoe, Saratoga Springs, Trans.

Draught Horses.—1st, William Larman, Pittstown, Rensselaer co., French Emperor, \$15.

Blood Horses.—1st, Ed. Long, Cambridge, Tornado, \$15; 2d, Elias Ireland, Alexander, \$10; 3d, Abram Butler, Wayne co., Young Mogadore, Youatt.

Three year old.—1st, Simon Schermerhorn, Rotterdam, Waxy, \$10; 2d, Samuel R. Garrett, Ballston, Highlander, \$5; 3d, Henry Bailey, Bethlehem, Sampson, Youatt; 4th, Daniel Davis, Gunderland, Rough and Ready, Trans.

Three year old Mares.—Harman Becker, Easton, Lady Jane, \$10.

Two year old.—Hiram Hall, Grafton, Empire, \$8.

Ponies.—Four imported ponies, very finely trained, were exhibited by the sons of E. P. Prentice, Mount Hope, and J. H. Prentice, New York. They were exercised by the lads with great skill and judgment, and the committee recommend a Diploma to each.

GELDINGS AND MATCHED HORSES.

Geldings.—1st, Arden Merrill, Rome, grey gelding, Diploma; 2d, Peter M. Moriarty, Saratoga Springs, grey, 6 years, Youatt.

Matched Horses.—1st, Herod Otis, Jordan, Onondaga co., bays, 7 years, \$8 and Diploma; 2d, Aaron Freeman, Milton, Saratoga co., browns, 5 and 6 years old, \$5; Caleb Gasper, Onondaga co., dark grey, 4 years old, Vol. Trans.; N. W. Moore, Sauquoit, Oneida, black, 5 years old, Trans.; Lewis G. Morris, Morrisiana, Westchester co., bays, 5 and 6, Trans.; D. R. McCarthy, New Baltimore, greys, 6 years old, Trans.; Lester Hungerford, Watertown, Jefferson co., brown, 4 years old, Trans.; Henry Vail, Troy, sorrels, 7 years old, Eclipse horses, Trans.

SHEEP—LONG WOOLLED.

Best Buck.—1st, L. J. Van Alstyne, Canajoharie, \$10; 2d, E. J. Ireland, Watervliet, \$5.

Best 5 Ewes.—1st, Wm. Rathbone, jr., Springfield, \$10.

MIDDLE WOOLLED.

Bucks.—Z. B. Wakeman, Herkimer, \$10; 2d, J. McD. McIntyre, \$5; 3d, Z. B. Wakeman, American Shepherd.

Best Ewes.—1st, Z. B. Wakeman, \$10; 2d, do., \$5; 3d, J. McD. McIntyre, American Shepherd.

Best 5 Lumbs.—1st, Z. B. Wakeman, \$5.

MERINOS AND THEIR GRADES.

Best Bucks.—1st, Joseph Blakeslee, Salem Centre, Westchester co., \$10; 2d, John B. Holmes, Saratoga, \$5; 3d, Daniel S. Curtis, Canaan, Columbia co., American Shepherd.

Best Ewes.—1st, Joseph Blakeslee, \$10; 2d, D. S. Curtis, \$5.

SAXONS AND THEIR GRADES.

Best Bucks.—1st, Joseph Haswell, Hoosick, Rensselaer co, \$5; 2d, W. Joslyn, Buskirk's Bridge, Rensselaer co., \$3; 3d, Hiram Whitlock, North Salem, Westchester co., American Shepherd.

Best Ewes.—2d, Wm. Joslyn, \$5; 2d, J. L. Randall and Sylvester Milliman, Clay, Onondaga co., \$5; 3d, Joseph Haswell, Am. Shep.

SWINE.

Large Breed.—Best boar, 2 years old, Henry Holmes, Saratoga, \$10; best 1 year old boar, Berkshire, Jonathan Pitney, Saratoga Springs, \$8; best boar, 6 months and over, Jonathan Pitney, \$5.

Best sow, 2 years old, Z. B. Wakeman, Herkimer, \$10; best sow, 1 year old, Berkshire, James Stewart, Saratoga Springs, \$8.

Small Breed.—Best sow, 2 years old, James Stewart, \$10; best sow, 1 year old, Jonathan Pitney, \$8; best lot of pigs, Jonathan Pitney, \$5; second best, Nathaniel Mann, Milton, Saratoga co., Trans.

POULTRY.

Best lot of Dorking fowls, H. Vail, Troy, \$3 and American Poulterer; best lot of large fowls, J. T. Blanchard, Saratoga Springs, \$2 and do.; best pair of ducks, \$2 and do.; lot of Poland fowls, \$2 and do.; best and greatest variety of barnyard fowls, J. A. Brackett, \$5 and do.

FOREIGN STOCK.

Horses—Best Stallions.—1st, D. & N. Hill, Bridgeport, Vt., Black Hawk, \$15; 2d, Silas Hale, Royalton, Mass., Green Mountain Morgan, \$10; 3d, Spencer C. Smith, Bloomsbury, N. J., Top-Gallant Jr., Youatt.

Brood Mares.—1st, E. H. Morgan, Rutland, Vt., \$15; 2d, Calvin Blodgett, Lady Burbank, \$10; 3d, F. A. Wier, Walpole, Lady Wildair, Youatt.

Cattle.—A. H. Jerome, New Hartford, Conn., best yoke working oxen, Diploma.

Sheep—Columbia.—C. W. Reybold, Delaware, Diploma. **Saxons.**—S. C. Scoville, Salisbury, Conn., Diploma. **Merinos.**—Joseph Hinds, Brandon, Vt., Diploma; J. N. Sawyer, Salisbury, N. H., 5 bucks and 5 ewes, Diploma; Jacob N. Blakesly, Conn., 1 buck, Diploma.

FLOWS.

Minor Horton & Co., Peekskill, Peekskill Flow, \$10 and Diploma.

FARM IMPLEMENTS, WAGONS, HARROWS, &c.

1st, Silas Briggs, Ballston, lumber wagon, \$10 and Diploma; 2d, Hollister, with 3 pair steel springs, Col. Tour.; 3d, John W. Sherman, market and spring wagon, new and ingenious construction, Trans.

Harrows.—Z. B. Wakeman, Herkimer, \$3.

Cultivators and Scarifiers.—Anthony Van Bergen, Coxsack, \$3.

Fanning Mill.—1st, I. T. Grant, improvement on former mill exhibited, Silver Medal; 2d, J. E. Clapper, Trans.

Horse Power.—M. S. V. D. Cook, Pittstown, \$5 and Diploma; 2d, A. & W. C. Wheeler, Chatham 4 corners, Trans.

Stalk and Straw Cutter.—1st, Geo. Catchpole, \$5 and Diploma; 2d, Byron Densmore, Trans.

Drill Barrows and Seed Planter.—H. L. Emery, Albany, \$3; Pennock's Seed and Grain Planter, certificate; C. Masten, Patent Lever Drill and Grain and Seed Planter, Diploma and Trans.

Portable Grain Mills.—Charles Ross, Fitzgerald's Burrstone, Trans.

Sut Machine.—Leonard Smith, Troy, Trans.

Broadcast Sowing Machine.—Peter Gleason, Trans.

Corn Sheller and Separator.—Luther Tucker, Trans.

Root Cutter.—Luther Tucker, Ruggles, Nourse & Mason's vegetable root cutter, Trans.

Hay Fork.—L. Bacheller & Son, a very highly finished hay fork, Trans.

Mowing Machine.—F. Ketchum, Buffalo, Diploma.

Reaping Machine.—T. R. Hussey, Diploma.

Field Cultivator.—1st, Doras Hinkston, South Barre, Orleans co., Diploma; 2d, Nathan Ide, Shelby, do., Trans.; 3d, Alanson T. Odell, Royalton, Niagara co., Trans.

Seed Sower and Weeder.—Exhibited by Noadiah Moore, Chazy, N. Y., Diploma.

Corn and Cob Crushers.—Butterfield & Greenman, Utica, \$5 and Diploma.

Flax and Hemp Dresser.—James Anderson, Louisville, Ky., \$5 and Diploma.

Ox Cart.—G. B. Powell, Saratoga, \$5.

Horse Rake.—Henry Warren, Troy, \$5 and Diploma.

Ox Yoke.—1st, Azor Monroe, Galway, Saratoga co., Diploma; 2d, Elon Sheldon, Sennett, Cayuga co., Trans.

Saddle.—Lyman J. Lloyd, Albany, Diploma.

Grain Cradles.—Myers & Bryan, Schaghticoke, Diploma; I. T. Grant & Co., do., Diploma.

Six Manure Forks.—Luther Tucker (Partridge's), Diploma. **Six Hand Rakes.**—Luther Tucker, Mayher & Co., New York, Diploma.

Grass Scythes.—Hiram C. White, Albion, Orleans co., made by R. B. Dunn, Wayne co., Maine, Diploma; six cradle scythes, Knickerbocker & Hurlbut, Saratoga Springs, Diploma.

Churn.—Nathan Parish, Rush, Monroe co., Diploma.

Portable Grain Mill and Bolter.—Charles Ross & Co., Broadway, N. Y., Diploma; D. C. Duncomb, Rochester, Bradford's patent bolter, Diploma.

Corn Cutter.—Seth Whalen, West Milton, Saratoga co., Diploma.

Dog Power and Churn.—Allen Burdick, Moreau, Saratoga co., Diploma.

Two Hay Forks.—Deming & Hart, Farmington, Conn., of excellent workmanship and finish, Diploma.

Butter Firkins.—John Holbert, Chemung, Diploma; Wm. Trap, Jr., Ithaca, Diploma.

Cheese Press.—T. Burch & Co., Little Falls (Kendall's patent), certificate.

Best collection of Agricultural Implements.—Luther Tucker, \$10 and Diploma.

FLOWING MATCH.

1st, Flavel Shattuck, Galway, \$15; 2d, John Smylie, West Galway, \$12; 3d, James McDougall, Argyle, Washington co., \$10; 4th, Howard Delano, Motville, Col. Tour.; 5th, John Newland, Milton, Saratoga co., Trans.; G. W. J. Bronson, Amsterdam (special), Col. Tour.

Boy 18 years old.—George Wesley Steves, Milton, Saratoga co., \$10.

DAIRIES.

Butter.—O. C. Crocker, Union, Broome co., for best lot in 30 days, 242 lbs. from 5 cows, from 13th June, \$25; E. R. Evans, Marcy, Oneida co., for 2d best lot in 30 days, 216 lbs., from 11th August, \$15; John Holbert, Chemung, for best 25 lbs made in June, \$10; O. C. Crocker, Union, 2d best, Col. Tour.; Hamilton Morrison, Montgomery, Orange co., 3d best, Vol. Trans.; B. A. Hall, New Lebanon, for best 50 lbs., made at any time, \$15; O. C. Crocker, for 2d best, \$10; Stephen C. Hayes, Galway, Saratoga co., 3d best, Col. Tour.; John Holbert, Chemung, 4th best, Silver Medal.

Cheese.—William Keese, Ausable, Clinton co., for best 100 lbs., 1 year old and over, \$15; T. Burch, Little Falls, Herkimer co., 2d best, \$10; T. Burch, for best 100 lbs. less than 1 year old, \$15; William Keese, 2d best, \$10; Henry Lincoln, Greenfield, Saratoga co., Silver Medal; Newberry Bronson, Wyoming, 4th best, Washington's Letters; Wm. Angles, Cobleskill, 5th best, Vol. Trans.

SUGAR.

H. Davenport, Copenhagen, for best 25 lbs. maple sugar, \$10.

SILK.

Mrs. Lewis Westcott, Greenfield, Saratoga co., for best cocoons and silk sewings, \$10; Mrs. S. J. Pierce, Burlington, Vt., for two white handkerchiefs and black long shawl, Diploma and Downing.

FLOWERS.

Professional List.—Greatest variety, James Wilson, of Albany, \$5; greatest variety dahlias, James Wilson, \$5; best 24 dahlias, James Wilson, \$3; greatest variety of roses, James Wilson, \$5; best 24 blooms, Thomas Ingram, \$3; greatest variety of verbenas, James Wilson, \$3; best 12 varieties of verbenas, Thomas Ingram, \$2; greatest variety German asters, Wm. Newcomb, \$3; greatest variety pansies, James Wilson, \$3; best 24 blooms, Thomas Ingram, \$2.

Amateur List.—Greatest variety, Mrs. Washington Putnam, Silver Medal; greatest variety dahlias, Wm. Newcomb, Silver Medal; best 12 blooms, Miss E. Clarke, Saratoga Springs, Horticulturist; greatest variety roses, Miss E. C. Delavan, Ballston, Silver Medal; best 6 phloxes, Dr. Herman Wendell, Albany, Horticulturist; best seedling phloxes, Dr. Herman Wendell, Wash. Letters; best 12 verbenas, Dr. Herman Wendell, Horticulturist; best 12 Seedlings, Dr. Herman Wendell, Horticulturist; greatest variety German asters, Mrs. Newcomb, Horticulturist; greatest variety pansies, Mrs. Truman Mabbitt, Halfmoon, Horticulturist.

General List.—Best collection greenhouse plants, Mrs. J. Ford, Sar. Springs, Silver Medal; best floral design, J. Dingwall, Albany, Silver Medal; best ornament, Mrs. T. Mabbitt, Silver Medal; 2d best, James Wilson, Albany, Col. Tour.; 3d best, Mathias Tillman (gardener to Dr. Wendell), Horticulturist; best flat hand bouquet, James Wilson, Albany, Horticulturist; 2d best, T. Ingram, Sar. Springs, Wash. Letters; 3d best, Miss Sarah M. Davison, Sar. Springs, Downing; best round bouquet, James Wilson, Albany, Horticulturist; 2d best, T. Ingram, Sar. Springs, Downing; 3d best, Mrs. Dr. J. Clarke, Sar. Springs, Downing.

FRUIT.

Apples.—E. C. Frost, Catherine, Chemung co., for Dowse apple for cooking and winter use, worthy of further attention; Holland pippin variety of fall apples; Riley apple, of the fall pippin variety, worthy of note—requested for future exhibition, Diploma; Wilson, Thorburn & Teller, 18 varieties (9 approved); Truman Mabbett, 4 varieties early apples; Early Harvest, Yellow Bough, Strawberry, Downing; H. N. Langworthy, per J. Alleyn, 4 varieties; Henry Vail, Troy, 27 varieties, 23 approved; 2d premium, \$5 and Downing; J. W. P. Allen, Oswego, 5 varieties, all approved, Downing; J. L. Randall, Lysander, 31 varieties, 19 approved, Downing.

Pears.—1st, C. Reagles & Son, Schenectady, largest and best variety, Downing, colored plates; 2d, Dr. H. Wendell, \$5 and Downing; 3d, Wilson, Thorburn & Teller, Trans.; best collection autumn pears, J. W. P. Allen, Oswego, \$5 and Downing; J. W. P. Allen exhibited a remarkably fine specimen of a limb of Oswego Beurre, loaded with fruit, styled by the committee, Seedling, No. 1, commended to special notice, and to which they award a Diploma; Prof. Ives, New Haven, Conn., presented a small seedling early autumn pear of high flavor, Downing; L. Prevost, Astoria Nursery, for a splendid specimen of Duchess d'Angoulême, grown on quince stock, Diploma; Isaac Rapelje, Astoria, presented fine specimens of the Rapelje Seedling, a new pear, which on the sea coast may prove a substitute for the White Doyenné, Downing; H. N.

Langworthy, by J. Alleyn, of Rochester, fine specimens of Onondaga pears, Diploma.

Peaches.—Best 12, A. Snyder, Kinderhook, \$2 and Downing; 2d 12, Enoch H. Rosekrans, Glen Falls, Downing; best Seedling variety, Oliver Phelps, Canandaigua, large yellow cling, \$3 and Downing; James Mills, Poughkeepsie, beautiful specimen pine apple cling, extraordinary size and flavor, Diploma; Prof. A. H. Stevens, N. Y., presented several large and beautiful specimens of the N. Y. white cling-stone, grown in his garden at Astoria, Downing; Jerry Wariner, Springfield, Mass., fine specimen Seedling peaches, from a tree 3 years old, by J. Stafford, Diploma; E. P. Prentice, Mount Hope, 12 fine specimens of Bergen's yellow, Diploma; H. N. Langworthy, by J. Alleyn, Rochester, fine specimens of Royal Kensington and yellow macolaton, Diploma.

Plums.—Best Collection.—1st, S. C. Groot, Schenectady, 25 varieties, \$5 and Downing; 2d, H. Wendell, Albany, 20 varieties, \$5 and Downing.

Best six varieties.—1st, S. C. Groot, \$3 and Thomas' Fruit Cult.; 2d, Dr. Wendell, \$1 and Thomas' Fruit Cult.; Abel Whipple, Lansingburg, for best Seedling, known as Locofoco, \$5 and Downing; S. C. Groot, for best 12 plums, \$1 and Thomas' Fruit Cult.

Nectarines and Apricots.—Best and greatest variety.—1st, H. Snyder, Kinderhook, \$3 and Downing; 2d, Dr. Wendell, \$2 and Thomas' Fruit Cult.; Col. Young, of Ballston, presented some specimens of nectarines produced from the peach-stone.

Quinces.—1st, Dr. R. T. Underhill, Croton Point, \$3 and Downing; 2d., Robert McDonnell, Greenfield, Saratoga co., \$2 and Downing.

Grapes.—1st, best and most extensive collection of native, Daniel Ayres, Amsterdam, \$5 and Downing; 2d, J. C. Hubbell, Chazy, Clinton co., \$2 and Downing; 1st, best dish of native, R. T. Underhill, Croton Point, Thomas' Fruit Cult. and Diploma; 2d, Wm. C. Sage, foreign and native, Downing; Col. Thomas H. Perkins, of Boston, sent a box containing bunches of eight varieties of foreign grapes, extraordinary fine specimens, grown under glass in his garden at Brighton—sorts *Nice*, two varieties, *St. Peter's*, *Black Hamburg*, *White Frontignac*, *West St. Peter's*, *Grizzly Frontignac*, *White Muscat*, *Muscat of Alexandria*; also some beautiful Nectarines of remarkable flavor and growth, produced under glass, Boston, *Red Roman*, and *Norington*, Diploma and a letter of thanks.

Special commendation to Mrs. Voorhees, of Amsterdam, for a bottle of choice gooseberry wine, of her own manufacture.

To John H. Waring, for best peck cranberries (superior specimen), \$5.

VEGETABLES.

To N. H. Waterbury, Sar. Springs, for 12 best ears seed corn, \$1; 1st, best $\frac{1}{2}$ peck table potatoes, C. R. Nichols, Darien, Genesee co., \$1; 2d, H. Morrison, Montgomery, Orange co., \$1; greatest and best variety of Seedling potatoes, Rev. N. S. Smith, Buffalo (30 varieties), \$10; Thomas Cody, Saratoga Springs, for 3 best heads of cabbage, \$1; N. H. Waterbury, for best 12 carrots, \$1; N. H. Waterbury, for best 3 squashes, \$1; Truman Mabbett, for best 12 tomatoes, \$1; Thomas Cody, for best 3 egg plants, \$1; C. Schuyler, Ballston Spa, 2d best 12 ears seed corn, Trans.; C. Schuyler, for 12 best onions, \$1; A. J. Parker, Sar. Springs, for Lima beans, \$1.

TWENTIETH ANNUAL SHOW AND FAIR OF THE AMERICAN INSTITUTE.

THIS show commenced on the 5th of October and continued till the 23d. It was held at the commodious premises of Castle Garden; and the long spacious bridge leading to it from the Battery, which had been inclosed and roofed for this purpose, was also densely packed with agricultural and other implements. The interest in this institution seemed to be as great as it was possible for the premises to accommodate. Every nook and corner of the large area were filled with the various products of American art and industry, and it makes us proud of our country—prouder far than to hear the thunders from our distant victories on a foreign soil—to see these manifold specimens of American ingenuity thus fostered and brought into favorable and wide-spread notice, by the leading association of the country. At the same time that the products of various useful arts have been so widely exhibited, the interest of the public to witness this display has suffered no abatement from former years. The crowd of visitors was larger than at any previous period, and the garden has been thronged from the commencement, increasing every day till the end of the fair.

Among the many valuable agricultural articles exhibited, we may mention Lewis' corn-sheller, with separator and fan attached, price \$15; Bott's straw and stalk-cutter, improved, price \$25 to \$30; Tower's ditto; Ruggles, Nourse and Mason's ditto; Thorn's ditto, an excellent machine; Grant's fan-mill, an old machine, but still at the head of improvement; Eddy's Thresher, a new article; Bogardus' horse-power, ditto; Trimble's horse-power; Bogardus & Swift's corn-mills; Fitzgerald's corn and flour mills; Smith's ventilating smut-machine; Gifford's corn-sheller and separator; Ketchum's mowing-machines; Stafford's kiln-drying machines for grain and meal, heated by steam, a new, and apparently an excellent article; Wakeman's harrow, a new and valuable article; Hopkins' manure and hay forks and potato-hooks, highly finished, and cut out of the best solid cast-steel; Bullock's hay-press; specimens of wire and fancy iron fences, a beautiful and convenient article, together with the usual quantity of fine improved plows, harrows, cultivators, &c., &c. Also, several improved washing-machines; a valuable little self-acting apple-parer; dog-powers for churns; Kendall's churns. All of the above implements we have for sale at our agricultural warehouse, 187 Water street.

The articles of various miscellaneous domestic manufacture were displayed in great profusion, and of high finish; and we were glad to notice an unusual advance in many of the finer branches of cutlery, and the metals, wood, leather, wool, cotton, india rubber, &c., &c.

A new and splendid telescope, the fruit of American manufacture, was exhibited.

The show of fruits, vegetables, and flowers was good, and added much to the interest; and the display of fireworks gave brilliancy to the fair.

The annual speech delivered at the Tabernacle by Fletcher Webster, Esq., was replete with interest and instruction, and other addresses made during the Fair added to the interest of the occasion.

The cattle-show was held at the corner of Broadway and Twenty third streets, and was well filled with the various representations of the farm-yard. Preeminent among them was the superb imported horse, Trustee, the illustrious sire of Fashion, who has made the quickest four-mile heat yet run in America. Though now about 17 years old, he seems in tip-top vigor and health. The show of horses was not numerous, but among them we noticed several good animals. The same is true of cattle, sheep, and swine. Among the latter, we noticed the valuable animals of Mr. Stickney, of Massachusetts, and the descendants of former importations, which did great credit to their owner.

There was a pair of sheep-dogs exhibited by Dr. Field, which were fine specimens of what ought to be in the hands of every shepherd.

HOW TO MAKE A STORM-GLASS.—Take a glass-tube closed at one end, with a fine aperture in a brass-cap at the other end. Fill the tube with a mixture of camphor, saltpetre (nitrate of potash), spirits, or other matters, dissolvable by heat, and crystals will be formed, which will generally fall to the bottom and become feathery at the time of an approaching storm, but will rise again when the weather is fine.

SHEEP-BARNS AND SHELTERS.

THE utility of barns for the protection of fodder no one will question; and that a well-constructed barn is conducive to economy, is susceptible of demonstration. Hay is often essentially damaged when stacking, by a sudden and violent rain; whereas, whatever is secured in a barn is freed thereafter from harm. Again, a skilful stacker is rare, and therefore much hay is subjected to damage from this cause; and when unthatched, of course much is injured on the surface. Taking only these into view, the inducement is ample for every sheep-farmer to build commodious barns for the reception of his provender. That they will reimburse their expense in a few years by the saving of hay, and that the flock can be sustained in better order from the improved quality of the hay, all who have had the opportunity to judge, will at once testify.

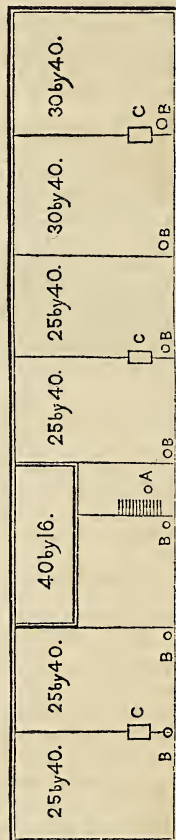
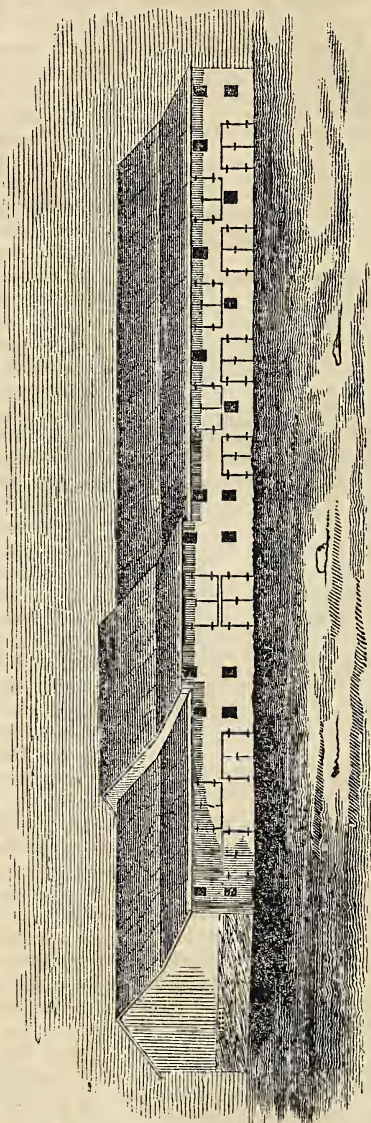
The locality of the writer being favorable with regard to climate, and the snow rarely of much depth, he gives the preference to single barns, which are situated on the borders of his meadows, and therefore very convenient for the reception of hay. These barns are 32 by 24 feet, with 16 feet posts. The sheds are placed at the east end of the barns, and front the south. The latter, however, is objectionable; they should be on the west side, and front the east. By this plan the barn affords ample protection from the cutting winds of the north while the flock is feeding. The writer would recommend, in reference to the sheds, the north gable ends to be placed in a line with the south sides of the barns, with single roofs, the peaks of which may ascend to the eaves of the barns, and the lower ends elevated ten feet from the ground. The space for the sheep to occupy should be six feet in height, with a view to easy removal of the manure by carts; and above, there will be abundance of room for the storage of straw and pea-vines, for the variations of fodder; and for the deposite of litterings. For 100 sheep the shed should be 20 by 30 feet at least. By this plan, it will be seen that the feeding racks must be placed in the yards.

To those whose circumstances forbid the expense of the erection of barns and framed sheds, the writer would recommend the following:—For the consumption of 100 sheep, during the foddering season, two large stacks of hay are necessary; let these be placed in a north-east and south-west line; and when they are about to be built, place two poles 35 feet each in length on the top of the stack-pens, the centre of the poles to be supported by strong crotches. Before winter the hovel may be completed by putting rails crosswise of the poles to support the straw necessary for the roof; the back can be made of common boards, or by placing rails or poles parallel, and about one

foot apart, and stuffed with old or partly rotted straw. This description of hovels are warm, and made in a very brief time. Wind-breakers may be built at right angles of the hovels, of the same materials and manner as the back of the hovel, which afford much protection when the sheep are feeding.

Description of Fig. 186, by M. Y. Tilden, of New Lebanon, Columbia County, N. Y.

A. Well with pump.



SHEEP-BARN.—FIG. 186.

B. Water-tubs.

C. Boxes for hay 4 by 6 ft. directly under a trap-door, through which hay is thrown from the mow; this prevents the sheep running into it before feeding and also keeps the dust and seed out of the wool.

D. In this section is a shearing floor, 13 by 40 ft., and wool room 14 by 18 ft., plastered.

Racks are placed around the sides of each apartment.—*Morrell's American Shepherd.*

CHOICE VARIETIES OF APPLES.

THE BALDWIN APPLE.—This justly esteemed fruit originated in Wilmington, near Boston, in that part which now makes a portion of the new town of Somerville, in the county of Middlesex. The original tree grew on the farm of a Mr. Butters, and was known for the time as the Butters apple. This tree was frequented and pecked by the woodpecker, and Mr. Butters called it the "Woodpecker apple," which was soon abbreviated to the "Pecker apple."

My trees, which I set out twenty-eight years since, are registered "Peckers." This fruit must have been known about a century. Orchards were propagated from Mr. Butters' tree pretty freely, about

seventy-five years since, by Dr. Jabez Brown, of Wilmington, and Col. Baldwin, of Woburn, and their sons, to whom the public are principally indebted for bringing the fruit so generally into notice. From Col. B. and his family, who introduced it largely into public notice, it took the name of "Baldwin," by which the fruit is now everywhere known.

I am informed that Major Samuel Jacques, of Somerville, eminent as an agriculturist, breeder, and horticulturist, as well as a public benefactor of his age, now owns that part of the farm on which the original Baldwin tree grew, and has placed a monument on the site where it once flourished.

It has been thought by some, that there were three varieties of the Baldwin, as some fruited annually, some every odd numerical year, and some on the even years, which (as this, 1846) is the general fruiting year. But on a careful investigation, they are found to be identical.

The tree with us, for thriftiness, for fine form and vigorous strength—for its abundant bearing and the beauty and long keeping of its fruit, is placed at the head of all other New England winter apples. The fruit is always fair, above medium size, of a fine rich and yellow color. The flesh nearly tender; in color, yellowish, rich—juicy and fine flavored; excellent for the table or cooking, and is in use from November till May.

I have given the Baldwin a thorough trial in my own orchard. This year is the bearing year with me, and I have taken *ninety barrels* of Baldwins from trees planted twenty-eight years ago in grass-land, and kept in that state ever since.

You may judge how superior to the Newtown pippin this apple is for New England orchard-culture, when I inform you that from four yellow Newtown pippin trees, in the same orchard, planted at the same time with the Baldwins, I gathered only one and a half barrels of apples; while from two Baldwins adjoining, in the same row, I took seven barrels.

The Baldwin is preferred in Boston, to any other variety for shipping. I have been credibly informed, that one person engaged in shipping fruit from this port, has this autumn purchased twelve hundred barrels of Baldwins for this purpose.—*Horticulturist.* B. V. FRENCH

THE BALDWIN APPLE.—FIG. 87.

Excellent for dessert from November to May—Good for cooking.

MILDER'S BUTSH.—FIG. 88.

Excellent for drying from August to October.

The outline of the Baldwin is round, flattened at the stem-end, and narrowing towards the eye. The ground-color is yellow, obscured by red and crimson, slightly marked by russet near the stem, which is rather deeply planted.

MAIDEN'S BLUSH.—This apple is described by Landreth, as above medium-size, smooth skin, yellow, with a lively carmine cheek, and of an outline generally flattened. The flesh is white, tender, and admirably adapted to drying. The stem, which is short, and the eye, are both seated in a deep cavity. The habit of the tree is vigorous, forming an open and rather spreading head.

THE PEANUT, OR PINDAR.

THE pindar, pea-nut, or ground-pea (*Arachis hypogæa*), is a leguminous plant, similar to the pea or bean, but differs from them in containing about ten per cent. of oil, resembling that of the almond, and consequently is more fattening and equally nutritious to man and animals. Therefore, from these properties, and the value of the green stems when plowed in as a fertilizer, we think the following remarks from Mr. McCaughan, of Mississippi, are worthy of the attention of Southern planters:—

I planted, the 18th of February last, three acres in pindars, in rows five feet apart, the peas about 12 inches apart, in a common small furrow made with a bull-tongue plough, on level ground, having first broken up and harrowed it well. The weather afterwards, in March, was very cold, wet, and unfavorable, and killed many of the peas which had sprouted, so that I had a very poor stand; they, however, grew finely, and interlocked across the rows, and covered the ground pretty well. On the 27th of October I began digging (for fear of frost) by loosening the ground a little round the bunch with an iron fork with three prongs, each above 13 inches long, and then pitched the fork under the tap-root and pressed it up; a hand follows and lifts up the bunch, most of the peas adhering to it, and shakes the sand (dirt we have none) all off, and lays it out straight to cure like hay; when sufficiently cured, tie up in bundles the proper size for a cutting-box, and stow away for winter food for horses, cows, &c., than which there can be nothing better or more nutritious. The pindars that are torn from the vine are partly left on the top of the ground, and can easily be picked up after a rain. I then turn the hogs in, and they gather the balance, and fatten as finely on them as on corn. Our poorest land will yield 50 to 80 bushels of the peas, and over a ton of hay per acre, and altogether I regard it as one of the finest crops the Southern farmer can raise. If we could afford to give an entire crop to the land, I am persuaded it would be quite as good as a crop of your best red clover to fertilize it. There has been a mistaken policy pursued, almost universally, in cultivating the pindar, by covering over the tops with earth when they begin to bloom; this is not only unnecessary, but positively injurious; although the top or vine grows straight up at first, yet when it is time to seed, the small fibres on the end of which the pea grows, arise, the vine inclines to the ground until it finds a proper location, and then extends its branches, two, three, or four feet in length in every direction, touching

the earth. The only cultivation requisite is to keep the ground loose and clear of weeds and grass, and as level as possible, so that the fibres on which the pea grows can penetrate the ground easily. I intend, next year, to plant pindars in hills, or, rather, in checks, two feet apart each way, which will cause them to grow in upright bunches, yielding more hay, and will be easier dug, and, I think, will probably yield as many peas.

LONG ISLAND LANDS.—No. 2.

LONG ISLAND, with the exception of the range of hills which extend through its entire length, and the drift on its northern slope, adjacent to the Sound, is strictly a marine formation reclaimed from the ocean. The "back-bone," or range of hills before referred to, is thought to be based upon a reef of rocks, which first formed a bed whereon the waves washed up the sand, and has so continued to accumulate until the present time. It may be briefly stated, that in no instance is the soil of Long Island derived from the rocks *in place*, none of which have hitherto been discovered, except in a small tract at Hell-Gate, the entire mass of the island as far as known, being drift, marine sand, clay, peat, or vegetable mould.

That portion of the island called the "back-bone," is largely made up of boulders, or blocks of stone, varying from the size of a pebble to large masses of a weight of several hundred tons, occurring in deposits of sand, clay, and gravel, which correspond in character with the rocks in place, in Rhode Island, Connecticut, and along the river Hudson, leading to the conclusion that they were derived from those places by means of ice-bergs, or a strong current flowing from the north. For instance, "the boulders on the east end of Long Island are like the Granite, gneiss, mica-slate, greenstone, and Sienite of Rhode Island, and the easterly part of Connecticut; further westward, opposite New London, and the mouth of Connecticut River, are boulders like the New London and Connecticut River granites, gneiss, and hornblende rock; opposite New Haven, are found the red sandstone, and conglomerates, fissile and micaceous red sandstone, trap conglomerate, compact trap, amygdaloid, and verd antique; opposite Black Rock, are the granites, gneiss, hornblende, quartz, and white limestone, like those in Fairfield county; and from Huntington to Brooklyn, the trap (compact, crystalline, &c.), red sandstone, gneiss, granite, hornblende-rock, serpentine, and crystalline limestone, are found to be identical in appearance with those of the country between New Jersey and Connecticut."*

It is further evident that the soil of the entire mass of the island is of a marine or diluvial formation, from the fact that shells, peat, lignite, or fossil wood, have frequently been dug up in making wells and other excavations, the principal part of which have been taken from the strata below the drift, even to a depth of thirty or forty feet below the level of the tide.

The composition of the soils of Long Island therefore depends upon the direction from which they came, a large portion of that of the County of

* Thompson's Hist. of Long Island, p. 45.

King's, and the northern parts of the counties of Queen's and Suffolk, being of a superior kind.

The composition of the drift, which constitutes the soil of the northern face of the island, is as follows:—

Water and organic matter.....	6.00
Silicates.....	87.10
Peroxide of iron and alumina.....	6.25
Carbonate of lime.....	0.25
Magnesia.....	trace.

99 50

The soil from which the above was taken, is what is called a sandy-loam, and is somewhat retentive of manures and durable. The mass below is gravel, or fragments of gneiss, quartz, and mica-slate. It was taken two and a half miles above Oyster Bay.

The soil of a large portion of Hempstead Plains and the scrub-oak lands lying to the eastward, as well as of the southern declivity of the "back-bone" of the island, is principally composed of marine sand. The surface is frequently mixed with black mould, in which there is a small per centage of lime combined with an organic acid. This soil, when washed free of vegetable matter, furnishes only a trace, at most, of lime or magnesia—being merely a white beach sand, or perhaps in this position a yellow sand, tinged with the oxide of iron. The raw, black, vegetable mould, which covers the surface of these plains, when first turned up by the plow, appears to be very rich and fertile, produces moderate crops for a time, but soon fails without special manuring.

A specimen of soil obtained one and a half miles west from Hicksville gave the following ingredients:—

Water and organic matter.....	5.00
Silicates.....	87.06
Peroxide of iron.....	2.75
Carbonate of lime.....	0.37
Magnesia.....	0.13
Alumina.....	4.00

99.31

From this analysis, it may be inferred that there is a great deficiency of the alkalies and alkaline earths, and that lime and magnesia are only sparingly present in all parts of the island, except those portions bordering on the Sound. The nature of the great mass of the soil of the island from the surface downwards, is porous; and is composed of so large an amount of washed sand and pebbles, that a large proportion of all soluble manures sink below the reach of the roots of plants, in a very short period, rendering it very difficult for the farmer to increase the fertility of his land without frequent applications of manures.*

In a future number we shall endeavor to point out what we conceive to be the best means of managing or reclaiming the poorer classes of these lands.

SUPERIOR MOLASSES GINGER-BREAD.—Take two tea-cupfuls of molasses, one tea-cupful of butter, a table-spoonful of ginger, and two tea-spoonfuls of salærated and mix all well together. *Bake quick.*?

* See Nat. Hist. of N. Y., Part 5, pp. 318 et seq.

MANAGEMENT OF HONEY-BEES.—No. 14.

Hives—their Varieties, &c.—Everything used in this country as a domicile for bees, is generally called a *hive*, whether it be made of wood or straw, or whether it simply be a hollow tree cut off at a proper length.

The original conical *straw* hive, made by the cottagers of Europe, in consequence of its cheapness, and sometimes used in the United States, is but a poor substitute for the wooden hive. Hives should be made of white-pine *inch*-boards. There is no material so good as *pine*-boards, that can be recommended for general use. They should be an inch thick to prevent warping and cracking, and to serve as a non-conductor of heat and cold.

There is a style of hive used in England, denominated the *cross-box* hive, recommended by Dr. Bevan, in his work on the honey-bee. The principle is this:—that in consequence of the bees having a tendency to depart from the proper *thickness* in building combs, that is, such thickness as produces the greatest increase and prosperity, the science of man interferes, and furnishes *guide-bars* for the bees to work upon. These bars are loosely placed in a rabbit at the top of the hive, and the distance is gradually widened from the centre to the sides, in order to have the centre-combs closer together than those built at the sides. The reason of this is, that the *brood*-combs should be, in the *centre*, of a certain thickness, and a certain proportion of the whole number built. Bevan says, that without these *guide-bars*, the bees will, or may construct too many *store*-combs, which (as I have before stated) are unfit for breeding purposes, and in consequence of this lack of brood-combs, the apiarian will find, after a few years, that his bees are greatly deficient in fecundity and general prosperity. Thus speaks Bevan. These cross-bars being put in their proper places, the top board of the hive is put in with screws, so as to be taken off at pleasure. This enables the bee-master to withdraw combs from his hives at any time he pleases. The side connexion with the wood is cut with a long knife, something like a *spatula* used for compounding drugs, and then drawn out at the top of the hive. There are some advantages in this arrangement, but for general adoption it is out of the question. It involves too much expense and trouble for *American* use. Besides this, I deny his theory that the bees depart from a correct thickness of combs, when left to themselves. On the *chamber*-hive plan, I know it is not so, *if the communication to the chambers is left open* at the time of hiving and during the first month. The bees take it for granted, that whenever they wish to build *store*-combs, they can ascend into the chambers to do so; consequently, their works below are in uniform combs. I find mine so, and I find the young brood to extend to the last outside comb. I am inclined to think that Bevan is right, where there are neither lateral boxes nor chambers open to the bees on hiving them for the season, that the bees consider the space in which they are placed, all the room that they are ever to have, consequently they make provision for the winter to the injury of the production of their species.

If we observe, we find that the holes through

which the bees pass into the chambers, are always carefully left open by them when every other opening is tightly cemented. This is conclusive evidence that the bees anticipate the use of the chambers, sooner or later, as store-rooms. In order to cause the bees to work upon these bars, a *guide-comb* must be attached to one of the outside bars, and the bees will build upon each succeeding bar as a matter of necessity. The guide-comb may be quite small, say two inches long and one broad. If no guide should be afforded, the bees might build across the bars. There is another way, however, to make bees build their combs in such direction as one requires, as follows. When bees are hived, they always ascend to the highest part of the hive to commence building their combs—that is, if the hive be placed on a slight inclination, by raising one side two or three inches, while the other side is in close contact with the table used, the bees will ascend to the highest side, and build their combs *horizontally*, and as bees generally lay the foundation of the first comb on the second day on which they are hived, by inclining the hive, we can have the combs run in such direction as we desire. An advantage of cross bars is in being able to cut out and withdraw a comb at pleasure, in the spring, to supply *brood-comb* for artificial swarming. The renewing of old combs may be effected on this plan, by withdrawing *half* of the contents of a hive during the swarming season of one year, and the other half in the next season.

I speak of this method as feasible, but not as advisable as a general rule; but in order to allow those who may wish to try the advantage of it, I submit the distances of the bars as given by Dr. Bevan, which are as follows, viz. the three centre-bars seven-sixteenths of an inch apart, and gradually widening the distance on each side to nine-sixteenths of an inch between the two last bars. The bars are one and one-eighth of an inch wide, and half an inch thick. With bars of these dimensions, Bevan used hives eleven and five-eighths inches square. I allude to this kind of hive merely because it is considered as all-important by Dr. Bevan, whose work is the only one of merit that has a general circulation in this country. I myself do not, and will not try the experiment, being satisfied with leaving "well enough alone." Indeed, the art of making bees profitable does not lie in mystified complications, which perhaps the world may one day find out.

T. B. MINER.

Ravenswood, L. I., Nov. 1847.

NEW YORK FARMERS' CLUB.

Successful Cultivation of the Brown Corn.—At a late meeting of this Club, Dr. H. A. Field exhibited from his farm specimens of Indian corn-stalks with the ears attached. One was the variety called Brown corn; the seed from which it was raised, he obtained last spring, from Long Island, Lake Winnipissiogee, in New Hampshire. The crop, he said, has far exceeded his expectation. It was planted

three feet apart in an orchard, about the middle of May, in the time of a severe drought, and was ready for harvesting by the middle of August. The height of this corn was about five feet, the stalks slender, and upon an average, it contained two full grown ears to each, well filled with large grains, and growing only about eighteen inches above the ground. The field from which the above sample was taken, it was estimated yielded ninety-one bushels of shelled corn to the acre, or about one-third more than his ordinary crop. Had this variety been planted throughout the State of New York, the present corn-crop, he said, would probably have been increased 5,000,000 bushels!

Dr. Field also exhibited a specimen from the seed of the premium yellow corn of the last Fair of the American Institute, which contained only one ear on a high stalk, and was then in its milky or immature state. The latter variety was planted earlier than the other, and suffered much more severely from the drought. Dr. F. said that he considered the Brown corn to possess many important advantages over the ordinary kinds, among which he enumerated the following:—

1. It produces a greater yield, the mode of culture being the same.
2. Its rapid growth and early maturity render it secure both from late spring, or early autumnal frosts, and offer the advantage of early use or readiness for market.
3. From its hard, flinty character, and the abundance of oil it contains, it is very nutritious and valuable for shipping.
4. Owing to the diminutive size of its stalks, it is less exhausting to the soil, less liable to be blown down by high winds, and may also be planted at less distances apart.
5. It has the peculiarity of thriving in orchards, or among other trees, where other varieties generally do not succeed.

GRANGER'S IRON-WITCH COOKING-STOVE.

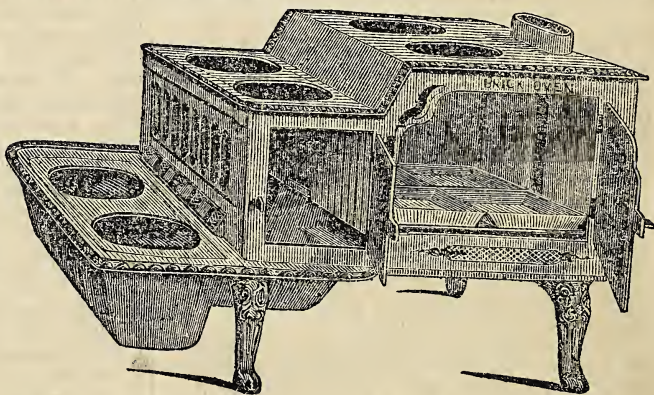


FIG. 89.

STOVES are now so generally used all over the Middle and Northern portions of the United States for cooking, that one is to be found in almost every dwelling. Common as they are, the mass of them are defective, and in many cases very poor. We feel that we are doing a great service to our readers by recommending them to the use of proper stoves for cooking, particularly the planters of the South

whose system of economy in cooking is very bad at present, incurring a vast deal of labor and expense for fuel, to say nothing of the imperfect manner in which it is often done. In fulfilment of our promise in the October number, we would now call attention to Granger's iron-witch air-tight cooking-stove, denoted by the adjoining figure, the main object of which has been to get as perfect and convenient an implement as possible, and at the same time to have it simple and without complication of flues, dampers, &c.

The front of the oven is lined with brick, which keeps up that steady even heat, which is so desirable in baking, and in which particular cast-iron ovens are found so defective. By means of the brick in this stove, the baking is more like the old fashioned brick-oven, which it is universally acknowledged bakes in the best manner.

A summer-furnace on the hearth is also attached to the stove with two boiler holes on which any and all the boilers fit. The furnace will be found very desirable for summer use, when but little fire is wanted; as a few chips or charcoal will do the cooking. The furnace can also be used at the same time with the stove, giving six boiler holes. A gridiron is also well fitted to the hearth for broiling, by raking the coals directly from the fire-chamber on to the grate.

The grate in the fire-chamber is omitted, and the wood is burned directly on the bed of ashes, by which means the fire can be covered up and kept over night, which cannot be done on a grate; the expense of purchasing new grates is thus avoided.

There being no interior blind flues, there will consequently never be any difficulty with choking of the draft, or trouble in cleaning out soot and ashes.

The stove will bake with as little fuel as any other, as will be seen at a glance; the heat being brought directly in contact with the top and bottom of the oven at the same time; and the stove being air-tight, the amount of fuel burned can be regulated by the draft damper.

REVIEW OF JUNE NUMBER OF THE AGRICULTURIST.

WHETHER the pure, bracing air of this lovely isle of the Atlantic will invigorate this article in the same degree that it has my mental and bodily faculties, I cannot say; but the scene around me has called up so many reminiscences of New England life, that I hope to be able to give a candid review of one article in this No. written by one born upon that soil, from whose views I shall differ in some essential particulars. I shall pass by all the preceding articles, and commence at once with that most requiring notice, entitled

Division of Agricultural Labor.—The most earnest and supplicating prayer that I could offer for the happiness of America, would be, that the rural population of this country might never see that day, when the "divisions of rural labor" are carried to the "nice extremes" of England. For then we should become as these, a nation of landlords and tenants—of wealthy farmers and pauper laborers. This is a state of things that I know the writer of this article does not wish to see in America; for I know him well, and know that his whole being is

filled with benevolence. But he is utterly mistaken in his idea that the perfection of English agriculture is owing to the *division* of labor, half as much as it is to *cheap* labor.

I grant the position that those laborers, who are bred from youth to the single occupation of being "plowmen, ditchers, reapers, stackers, herdsman, shepherds, or teamsters," may each excel in their single branch over the real "Jack at all trades," which abound, and will, must, and should abound throughout our Yankee race, while the laborer owns the acres that he tills; and however humble his log cabin may be, is able to say in proud exultation, while welcoming the poor emigrant from land-monopoly-ridden Europe, "This is my Home—this soil is mine! Here I can raise all the necessities of life! I can plow, ditch, reap, stack, herd my own cattle, and sheep, and swine; butcher my own meat, and tan the skins; in winter make my own shoes and harness, while my wife will make her own soap and candles, cloth and clothing; and I can get all the other real necessities of life by exchanging some of the products of my own labor with some of my neighbors." "But you are a Jack of all trades." "Yes, we are all so in this country; and if 'good at none' we have an abundance of food and clothing, and ought to be eminently happy."

Compare not then this system in disparagement with that where labor is divided, but food is not. The accumulation of dollars is not, or should not be the leading object; but an increase of human happiness upon so broad a scale that all might partake of it.

Mr. Allen speaks of division of labor, "dabbling at everything in a small way," as unworthy the attention of the cultivator of thousands of acres. Now I am fully persuaded in my own mind, that the cultivation of land by thousands of acres in this country, at all events in the free States, can never prove eminently successful to the cultivators in general, or conducive to the happiness of the laborers, in an equal degree with cultivation in a small way, even if they do dabble at everything and accomplish nothing.

But let us have an example or two of confining farming operations to a single branch. Many farmers, of the true Puritan stock, too, in the northern part of Ohio, previous to the summer of 1845, had so far forgotten how they were brought up—not educated, that they confined their farm operations entirely to stock and dairy products. The draught came, and their farms, all laid down in grass, afforded no summer feed for the production of butter and cheese, and no hay for winter, and the owners were nearly ruined. Many others who still pursued the course of "dabbling at everything in a small way," were but slightly injured.

A letter lies before me from a friend who left his New England home—his ancestral forty-acre farm, for the great wheat-growing region of the Western Prairies. For here he was tired of raising everything, and he meant to find a place where he could get rich without so much work; and he was satisfied that he would do it raising wheat at the West. Now he writes, "I am ruined. I have spent everything I had, and am in debt besides, in putting in 400 acres of wheat upon this rich, tempting,

prairie soil, and it is all winter killed. I did not intend to put in any spring crop, having previously determined to devote all my attention to wheat; and now I cannot, for I have no means. Well, I have learned a good lesson—never to rely upon any one crop.”

Again, Mr. Allen says, in speaking of the South, that they turn their attention to one crop, principally through necessity, because they are compelled to work their estates with a rude and ignorant force. This I deny. Not that their laborers are ignorant, but that they are so rude that they cannot be taught to perform the necessary labor of cultivating the most diversified crops. And it is often the case that we can find planters living side by side, and in a year of failure of the cotton, one is deeply injured, while his neighbor who cultivates food-plants, and grows stock, is able to sustain himself and feed and clothe his hands without falling in debt for necessarily purchased food and clothing. I believe, in the long run, that those planters as well as farmers at the North, succeed the best who diversify their cultivation so as to create a domestic supply for domestic wants. If it cannot be done on the farm, let it be done in the neighborhood, as far as is practicable by mutual exchanges. All such neighborhoods will be found comparatively independent, contented, and happy.

Mr. Allen asks, “is not the multifarious system of farming the true secret of want of success and bad husbandry of many of the Northern farmers?” I answer most emphatically, No. It is endeavoring to cultivate too much land, with too little labor. The case put of coupling the professions of law, divinity, and physic together, is not a fair one. Some of the most negligent farmers in the world are to be found along the Ohio and Mississippi rivers, on the richest alluvial soil in the world, whose crops never were diversified from the beginning of time to this present from corn and hogs, and who have not sufficient of the Jack-of-all-trade ingenuity to raise anything else or even do that one branch well. Here now are thousands of cases exactly in point to prove Mr. Allen's position, that if but one or two objects comprise his (the farmer's) attention, he will have seasons of comparative repose, which give him leisure for reflection, improvement, &c., &c. Yes, leisure that proves his ruin and shows some of the [dis-] advantages of a division of agricultural labor, which I never wish to see in New England, however astonishing its results may appear in Old England. I cannot but look at the tendencies of this article from the pen of a writer so well known and highly esteemed as Lewis F. Allen is, as deleterious.

It is not often that I meddle with the private business of any writer whom I review; but I am strongly tempted to do so in the present instance, just to show that he does not practise what he preaches. It is generally known that Mr. Allen is a large farmer—that though his family residence is at Black Rock village, he cultivates, and tolerably successfully too, some 400 or 500 acres of land on Grand Island, in the Niagara river, and is constantly bringing more land under cultivation as fast as 10 or 15 hands can clear it of timber.

And does he pursue the system of “singleizing”? Just about as much as his father before him, upon

his hard bound New England acres, where he was brought up to do a little of everything. Why, he does not even *singleize* in his stock raising. If it is convenient for him to do so, will he call to mind the late visit of the writer of this article to his farm, to see his really most beautiful lot of Short-Horn cattle? But not Short-Horns alone; for on the same farm is an equally fine herd of Devons.

Again, there is a little “dabbling” in at least two kinds of sheep. For there are to be seen on the same farm, a very good flock of the Cotswold, and another of South Downs. Now this gentleman is a stock-breeder, and any person who saw his flocks and herds about the time of my visit, must agree with me that he need not look further to find good ones.

But does he confine his farming operations to this branch singly? If he does, what was that new milk-house built for last winter? It strikes me it was for cooling milk in, which he sends in its purity in large quantities twice a day to Buffalo. But I need not particularize further to show that even he himself recommends what he does not and cannot practise; neither can one American farmer in a hundred ever attempt the “singleizing” plan without danger of ruin.

I would point out many more illustrative instances of the folly of depending upon one crop alone, but this article has already occupied so much space that I have but little left for all the other articles in the No. under review, and shall close with a slight notice of only a few of them.

Design for a Farm-House.—It is surprising that this plan should ever have passed the ordeal of a prize-awarding committee. As a dwelling for a country gentleman, who keeps his servants, it is not so objectionable. Some writer has said in your pages, that a farmer's kitchen should be the biggest and best room in the house. And so think I. If I was making a plan for a farm-house, I would not design the kitchen less than 20 by 24 feet. In this plan it is only 12 by 20, which is a fatal objection. The little 6 by 8 milk-room opening into the kitchen is not a farm-house milk-room. The nearness of the privy is another very objectionable feature. If cheese is to be made, a cheese-room separate from the dwelling should always be provided. Butter should never be made, worked, or kept with cheese, or any other strong smelling substance. If it is, it will acquire a bad flavor. The farmer's kitchen, besides being large, should be *light and airy*, with a broad *back porch*, well shaded, where the harvest hands could assemble before their meals, to wash or refresh themselves. In winter, what more pleasant sight than all the family and laborers of the farm, gathered around the crackling kitchen fire! This cannot be done in a house built upon the plan under review.

Comparative Weight of Pork and Bacon.—I think we have had an article of the same kind from the same pen before; but still this is interesting, and would have been more so if the writer had told us exactly how much pork could be made from a given quantity of corn. I hope that experiment will be tried and the result given. Tables of this kind are valuable for reference, when made by one upon whom we can depend for their accuracy.

Preparation for the Hay and Grain Harvest.—

Then the small fork for spreading and turning the hay, is the principal point in this article that I wish to remark upon. Not the fork, but the practice of spreading and turning the hay at all. Timothy hay, in particular, never should be cut till the seed begins to ripen. That which is mowed in the morning in good weather, will do to put in cock in the afternoon, directly from the swath. Or that which is mowed to-day, will do to cock to-morrow, and it will cure well, and all the labor of spreading and turning may be dispensed with, and still have a better quality of hay. [That depends something upon the quantity grown per acre. If it be from two to three tons it is usually necessary to spread it.] Use a good three tine fork to pitch the hay from the swath to the cock, or else use the horse-rake, and very little hand-raking will suffice. The recommendation about the grindstone is good for this latitude, and a portable one should always be carried to the field, where stones are as plenty as upon our native hills. But I have seen mowers in Ohio, who would not find a stone big enough to dull a scythe in a week. There the grindstone is but seldom needed. I believe the recommendation to use water-proof cloths to cover cocks of hay and shocks of grain, is too much neglected. Upon many a small farm they would pay cost every year. Pray, Mr. A., have you got them among your agricultural implements? I spent four hours in your city not long since, hunting for a few yards of cheap oil-cloth with which I wanted to make a cover that I could use in case of a sudden shower, to save a load, or unfinished stack of hay or grain. I found the article at last, and twice this season already have I saved the cost of it. A small cord at each corner is needed to fasten it on a load or stack, which can be done in five minutes; and then let it blow and rain—all is safe. One will last for years. If grain is well stacked it is better than in any barn.

Soil of the Red Sand-Stone Formation.—Will your admirable new correspondent, Rufus, inform your readers of the principal localities of the kind of soil he describes? It will enable many readers, old as well as young, to become familiar with what he describes. For instance, if he had said, while speaking of the soil described in this article, such is the soil at Hartford, Conn., &c., then those of us who are familiar with that, could judge of others by comparison. I hope he will continue his articles.

Capons.—About one half of your readers do not even alter their pigs and lambs and calves; and how can you expect them to alter their chickens? Besides, all the array of implements, paraded by some operators, is enough to frighten common folks from the attempt. If Mr. Phares can tell us how to dispense with those, then we may try.

Production and Preparation of Corn for the European Market. is one of the most important subjects that can be discussed at this time in your columns. The capability of American soil to produce Indian corn is so great, and extends over such a vast surface, that it is not probable that a year of universal blight will ever occur. And there are millions of acres of unoccupied soil, capable of producing 40 or 50 bushels to the acre without artificial manures, and with but moderate cultivation. There are vast regions of the West, where this grain does not

commonly sell for more than 10 to 15 cents per bushel; and I suppose the cultivators find it profitable at these prices, or they would not continue to grow it year after year. Such being the case, it certainly can be delivered in any Atlantic port, well kiln dried, and in suitable packages, *in the meal*, for one and a half cents per pound. And when all the growing facilities of transportation are fully made, it will be delivered for one cent per pound, for the best of sweet corn meal from kiln, or rather, steam-dried Indian corn. As I look upon it as decidedly the most important and most certain crop of the United States, too much cannot be said or written on the subject.

REVIEWER

IMPROVED STOCK AT THE WEST.

WE are happy to announce to the lovers of fine stock, that Mr. Wm. H. Sotham, who has for many years, in connexion with Mr. Corning, of Albany, bred choice stock of various kinds on their farm near that city, has recently leased and moved on to the fine grazing farms formerly occupied by R. L. Allen and ourselves, on the Niagara River, in the town of Black Rock, Erie county, N. Y. He has taken with him the choice of his splendid herd of Herefords, and his flock of imported Cotswold sheep, where he will continue to breed them for sale, as he has heretofore done in Albany.

In the same neighborhood, are the fine herds of Short-Horns and Devons; the long-woolled and South-Down sheep, of L. F. Allen.

Besides these, there are numerous choice animals of different breeds, in various hands, throughout and adjoining this county, among which we may mention as particularly deserving of notice, the Devon stock of Mr. Beck, and the Short-Horns and sheep of Mr. Hadfield, of Wyoming. But as Mr. Sotham has promised us a particular description of his stock for publication soon, we defer any further notice of it for the present.

It is a great gratification to us that the place where we have spent so many pleasant, and we trust not altogether unprofitable days, is still to be adorned with an improved stock; and we look forward with agreeable anticipations to the time when we shall be able to leave this paper farming and dealing in agricultural implements, and again come in contact with good old mother earth.

STAFFORD'S PATENT DRYER.

For preventing flour and meal from souring, and grain from heating. One of the machines is a cylinder with horizontal flange, which revolves in a trough, slightly inclined; the article operated upon is spouted upon the upper end, whence it works its way gradually to the other, passing many times over the cylinder. It is then discharged by a spout. The cylinder is heated by steam, and the condensed water is returned to the boiler; and the weight attached to the safety valve regulates the pressure and consequent amount of heat. The efficiency of the operation consists in the great amount of heated surface of cylinder and flanges which the substance passes over, and the perfect ventilation afforded.

The other machine is a stationary dryer, which is composed of a series of heating tubes within a casing, combined with a series of ingeniously devised perforated tubes which affords perfect ventilation to

the grain in its passage through the casing; at the bottom is a hopper and regulating gate; the heating agent is steam, and the condensed steam is returned to the boiler. It will be observed that in the stationary dryer no motive power is necessary, as is the case in all other machines for drying that have come under our notice. By these processes, grain, flour, meal, and other substances, have their moisture expelled without change of color, quality, or flavor; and when this is done the articles may be kept an indefinite time if the usual means are adopted to keep humidity from them. Of the importance and necessity of the application of such inventions, we need not inform our readers. A certain mode of preservation of our bread-stuffs will generally insure us a certain market in some quarter of the world.

TRIP TO FORT ADAMS—SOUTHERN HOSPITALITY.

HAVING just returned from a pleasant trip to Fort Adams, Mississippi, a brief sketch of some of the incidents by the way may not be uninteresting. The venerable bachelor, Major Trask, lives between Woodville and Fort Adams in a splendid mansion, and gave me a real Massachusetts welcome. I was pleased with his Yankee barn, the largest I have seen in the State. A wide passage runs through the middle with ranges of stalls for horses on each side. The manure is dropped through a trap-door, under the floor, where the sheep take shelter in winter. Oats and other fodder fill the lofts, instead of remaining stacked in the fields.

Major T. has very fine, improved breeds of cattle, and raises his own mules. His long avenue, or road, is lined each side with the pride of China, and locust-trees, a mile and a half long, which I found very pleasant, in screening me from the scorching rays of the sun. At his mill he has machinery for shelling and grinding corn, and for crushing cobs; also machines for sawing out boards, shingles, &c., all driven by horse-power, or rather that of mules. He has a superior breed of hogs, the Irish grazier's. The garden and shrubbery, on which he has displayed much taste, were in fine order. The Major is from the good old Bay State, and one of the most enterprising farmers in the South.

About six miles further, towards the Mississippi, is M. E. Sanders's walnut hill plantation, a beautiful and well managed place. Here also are fine cattle, hogs, goats, &c. Mule raising has also been practised by him, with success. The neatly-arranged white-washed quarter is laid out in a hollow square, encircled with the pride of China, and looks very comfortable. His gin arrangements deserve more notice than I can give them. His cane-scaffolds for sunning and drying cotton are excellent. A high pale-fence surrounds the whole, all neatly whitewashed. Of his plantation there are 1,000 acres, 900 of which are under cultivation or cleared. About a mile from the public road, in a romantic spot, you will find the residence of Capt. S., on his moorland place. Here you would be sure to be cheered with a cup of the best coffee, and meet with a genuine North Carolina greeting. I must not forget the fine figs and sweet apples on which I regaled. The Captain has a patch of sugar-cane, and no doubt can make sugar with success.

On my way home, I called at the hospitable mansion of my friend, Henry Dunn, Esq., who seemed to be gratified in showing me his plan of making and saving manure. He pens his cattle at night in a large enclosure, nearly level, on one side of which he makes saucer-like excavations, where he collects the droppings of the stock every few weeks, especially after a rain, having first drawn the same into small heaps, and then into large piles of a conical form, in which they remain till spring. This fall he intends to cover the enclosure with leaves, which will add much to the quantity and quality of the manure. In his crib-lot, he has a similarly prepared place for depositing horse manure, around the border of which his little negroes pour water to kill all fly-blows, thousands of which I saw drowned in their efforts to crawl away; and thus a great annoyance from stables is remedied. This is the first thing of the kind I have seen in the South. The old gentleman, over 70 years of age, attends to his own business, and is gratified in giving his friends a genuine South Carolina welcome. Here you will find excellent figs, pears, apples, plums, and peaches. He has a splendid Durham cow and bull, a fine young stud, and excellent mules.

At my friend Capell's, I saw an excellent bull, a descendant of the Hon. H. Clay's stock, brought there by a clever Shaker. He has also fine grafted fruits—the peach, apple, and pear, from Cincinnati. He has tried, and so have I, and is well pleased with your subsoil plows. On the road, I saw a splendid Durham bull, the property, I learned, of my friend Gunsby, whose new and beautiful house loomed up in the distance, from the road.

A. W. POOLE.

Woodland, La., July 28th, 1847.

ENGLISH GRASSES.

SWEET-SCENTED VERNAL GRASS (*Anthoxanthum odoratum*).—This grass is capable of forming a part of the herbage of pastures on almost every kind of soil, though it arrives to perfection only on those which are deep and moist. Its chief merit consists in its early growth, though, in this respect, it is inferior to several other kinds of grass that are later in flowering. It thrives best when grown with several different species, and therefore constitutes a permanent grass for pasture. It is said to give to newly-mown hay that delightful odor peculiar to its blossoms, which diffuse their fragrance throughout the English pastures in the months of April and May.

GOLDEN OAT-GRASS (*Avena flavescens*).—This grass is said never to thrive when cultivated simply by itself. It requires to be mixed with other kinds, in order to secure its continuance in the soil, and to produce in perfection. It thrives particularly well when sown with sweet-scented vernal grass, the crested dog's-tail, and grasses generally suited for lawns. It prefers a calcareous soil that is rather dry, although it grows freely in meadows of almost any kind.

CRESTED DOG'S-TAIL GRASS (*Cynosurus cristatus*).—This grass, in England, is considered an excellent sheep-grass. It will thrive on a sandy loam on a retentive clayey subsoil, but will do better on a rich loam, highly manured. It is particularly adapted for mixing with other grasses in seeding down a pasture or lawn.

Ladies' Department.

MAKING BUCKWHEAT-CAKES.

Do, dear Jane mix up the cakes ;
 Just one quart of meal it takes ;
 Pour the water in the pot,
 Be careful that it's not too hot ;
 Sift the meal well through your hand,
 Thicken well—don't let it stand ;
 Stir it quick—clash—clatter—
 Oh, what light, delicious batter ;
 Now listen to the next command ;
 On the dresser let it stand
 Just three-quarters of an hour,
 To feed the gentle rising power
 Of powders melted into yeast,
 To lighten well its precious feast.
 See, how it rises to the brim—
 Quick—take the ladle, dip it in,
 So let it rest until the fire
 The griddle heats as you desire.
 Be careful that the coals are glowing,
 No smoke around its white curls throwing.
 Apply the suet softly, lightly—
 The griddle's face shines more brightly.
 Now pour the batter on—delicious !
 (Don't, dear Jane, think me officious)
 But lift the tender edges slightly—
 Now turn it over, quickly, sprightly.
 'Tis done—now on white plate lay it.
 Smoking hot, with butter spread,
 'Tis quite enough to turn our head.
 Now I have eaten—thank the farmer
 That grows this luscious mealy charmer ;
 Yes, thanks to all—the cook that makes
 These light, delicious buckwheat-cakes.—*Selected.*

HEATED ROOMS.

Rooms heated with anthracite coal, and rooms heated with close stoves in which wood is burnt, have very dry atmospheres. The use of water in such rooms is very congenial to health, but the water should not be placed in an iron or tin vessel upon the stove, for the reason that it will undergo that degree of heat which will make its vapors offensive and injurious to breathe. It is as injurious to the human system to breathe putrid water vapors of this kind, as it is to breathe the vapors from stagnant ponds in hot weather. If water is used upon a stove, an iron pan should be made use of, and this filled with dry sand; in the sand set an earthen bowl filled with clean water, which should be changed twice a day, and the bowl washed and kept as clean as if used for a drinking vessel.

Where hard coal is burnt in a grate, a glass globe should be suspended in the room filled with clean pure water, and as the heated air rises to the top of the room, it will steadily evaporate the water and moisten the dry and heated air. Persons who prefer the atmosphere of salt water vapor, can add salt to the water, or if they prefer an aromatic atmosphere, they can add Cologne water, or any other perfume which they prefer. It is as important to have clean air for breathing as to have clean water for drinking. Basement rooms, where hard coal is burnt, should be frequently ventilated. Small children accustomed to stay in basement rooms find a bad air near the floor. This air should be removed by allowing the doors to be opened frequently to let in fresh air. A little care in these matters will tend wonderfully to comfort and enjoyment.—*Ex.*

BUILDING COAL-FIRES.

As anthracite is now used it makes a fire that is unpleasant, expensive, irregular in temperature, and productive of great dust and disagreeable and unhealthy gases, which are wafted about to the great inconvenience and annoyance of the inmates of

every house in which it is used. If properly and judiciously used, the anthracite fire is of uniform temperature, free from deleterious gases and annoying dust and ashes, and with a saving of from twenty to thirty per cent., as may be seen by the experiment. Anthracite should be carefully broken into uniform pieces of the size of a nut, and in building the fire in the morning as little charcoal or other kindlers used as will assist in starting the ignition with a blower. When the whole is well ignited, cover it with the cinders obtained by riddling or sifting the extinguished contents of yesterday's grate, including those of the size of a pea, or even smaller. When this, too, has become partially ignited, the whole should be covered from an inch to an inch and a half, or even two inches thick, with a paste or mortar made by mixing the ashes sifted from the cinders with water to the consistence of mortar for plastering. The fire should be left in this situation undisturbed until almost bed-time, or until the room begins to get cool. The crust should then be broken into pieces of the size of an egg, levelled, well wet with water, beat or patted down into an even cover, and left until the next morning. Thus the poking of the fire is dispensed with altogether, and the only moving of the ashes is the removing them from the fire-place or grate into the hods to be carried out of doors, to be sifted preparatory to making the fire. Fires built in this manner are of even temperature, free from dust and disagreeable and deleterious gases, and at a saving of from twenty to thirty per cent. in the expense of coal.—*National Intelligencer.*

RURAL PASTIMES BY SOCIAL LABOR—No. 2.

ANOTHER example of comely amusement I shall mention, is to my mind a most delightful, as well as a most useful kind of recreation ; for those engaged in it carry home with them the heart-cheering remembrance of a day well spent. In many places it is the custom, once or twice in a year, for the women to agree upon a time when they will have a party or bee at the house of their minister ; and for many days previous they are quietly preparing for it by gathering materials to work with and upon, as well as provisions nominally for the day ; but in reality enough to last for a long time after. Each one takes with her, according to her fancy or ability, a roast turkey or goose, a boiled ham or round of beef—pies, cakes, and delicacies—a piece of sheeting, or suits of pretty clothing for the baby ; and to these offerings their good husbands or friends often add a barrel of flour, or the winter's stock of potatoes.

The youngest and most active present undertake the task of entertaining the company, by waiting on the table, and serving the guests, &c.,—others cut out and fit the work for the sewers, and thus with respectful cheerfulness the labor of love goes on, until amid the blessings and prayers of the grateful family they exhibit the day's work—the shirts, aprons, frocks, and warm winter garments “for the household of faith”—remembering the command with promise, “if thou hast much, give plenteously ; if thou hast little, do thy diligence gladly to give of that little ; for so gatheredest thou thyself a good reward in the day of thine adversity”

Eutawah.

E. S.

Boys' Department.

EFFECTS OF AZOTIZED MANURES.

Crops supplied with highly azotized manures attain a size far exceeding that they attain under ordinary cultivation. Hence turnips will be twice the size both in leaf and bulb, and the cereal grasses will be double the dimensions; not to mention that many sandy soils were entirely incapable of growing turnips until bones, a highly azotized manure, were applied; since which time, they grow not only turnips and seeds, but wheat very vigorously. Before that period they could only be employed in the growth of rye. Azote alone solves the problem; wheat contains 0.23 per cent. of azote; rye only 0.17. Such soils would, however, grow potatoes, and were ample in their production of the Jerusalem artichoke; potatoes containing but 0.15 per cent. of azote, and artichokes 0.04. The green color of plants is due to their carbon, because plants excluded from light, a necessary vehicle of their assimilating carbon, grow indeed, but yellow, watery, and destitute of carbon. Celery, which naturally is rank and sticky in its stems, by having the light excluded by covering with soil, becomes soft and insipid. Water and azotized manure are both necessary to its complete development as a blanched product; hence the azote stimulates the growth, and hydrogen and oxygen are absorbed instead of carbon.

Azote is wasted and carried off a farm in a thousand ways. Every bushel of corn; every bat of straw; every load of turnips, potatoes, carrots; every pound of hay or clover,—of peas,—of beans,—of every animal bred and sold off—deazotizes the farm; nor is this the only process; weeds, if allowed to dry and left exposed on the surface, and tons of which are every year burned by many farmers, cause an exhaustion of incalculable quantities.

The manure of fat animals has long been considered of more value than that of lean ones. A feeding pasture would retain its quality for years as such, but when breeding is resorted to, the soil is invariably deteriorated. This is inexplicable on the ordinarily understood principles of causation, but this view clears up the matter at once. Feeding animals lay on only fat, or nearly so; fat is destitute of azote, and therefore they leave the azote in the excrements, it not being necessary to the animal economy. Growing and lean animals, on the contrary, require supplies of flesh and bones; the basis of the former (*fibrine*) contains as much as 19.934 per cent. of azote, and the basis of the latter (*gelatine*) 16.998 per cent.

Blood and bones being the best representatives of the gas, might therefore be expected to be very valuable manures; experience decides them to be superior to any, simply because they are concentrations of the azote obtained from the poor breeder's farm, in England, in the shape of bones and blood of the animal, and he has to employ ships and sailors to bring him azote to supply its place in the shape of bones from Russia.

Azote has been hitherto almost overlooked. There is, however, a greater reciprocity of dependence between vegetables and animals than is gene-

rally understood; besides the latter giving off carbonic acid, and the former absorbing it, and giving off oxygen again to be absorbed by animals. There is also a mutual interchange of the principle in review. Azote is necessary to animals and their existence, and they obtain it by consuming vegetables. It is also necessary to vegetables in order for them to supply it, and they again obtain it from animals. Decomposition and organization are thus more connected with, and dependent upon each other than is generally supposed.

Plants, however, will grow in charcoal for a considerable period. It has been contended from this that azotized matter must necessarily be introduced by the air, supposing it to be necessary to the development of the plant. This supposition is not at all necessary, however, for Berthollet found the aeriform products of the distillation of charcoal to contain a considerable quantity of azote. If this, therefore, were available to the plants by any process of decomposition, their developments were capable of effecting, it does not prove its being necessarily obtained from the atmosphere.

The free fermentation of manures has been much objected to by agricultural chemists, because so many of the gases useful to vegetation are dissipated by the process. No farmer, however, applies his manure without considerable fermentation, because he finds well fermented manure much more valuable than unfermented. As charcoal has the most amazing power of absorption, and will, in 24 hours, absorb 90 volumes of ammoniacal gas, may not this carbonaceous matter have the tendency of absorbing the ammonia and retaining—not fixing it—to give off to the plants, and as it has the greatest capability of absorbing the last named gas of any other, may not this solve the difficult problem, or at least partly solve it? Its capability of absorbing also 35 volumes of carbonic acid gas renders the apparent loss of that gas by the first processes of fermentation partly compensated for.

The effects of unfermented dung in a dry season are also, as regards moisture, considerably modified by the presence of the carbonaceous matter it exhibits when more fully decomposed. Undecomposed vegetable matter renders the soil porous, and conducts heat rapidly; the carbon conducts the caloric much more slowly, and hence is more favorable to the soils retaining its moisture.—*Condensed from the Farmer's Herald.*

CHEESE AS AN ARTICLE OF FOOD.—This well-known substance has been objected to as an article of diet, but without sufficient reason. That the hard, inferior kinds of cheese are not very digestible must be acknowledged, and when eaten in excess may overload the stomach; but when the quality is good, and the digestive organs are in a healthy condition, it proves not only wholesome but very nutritious. Like most other kinds of food, cheese digests more readily when well masticated, and the neglect of this precaution is one reason why it frequently disagrees with delicate stomachs. It is rendered more agreeable to most persons by toasting, but becomes less digestible by that operation. When taken as a condiment, especially when rich and old, it powerfully promotes the secretion of the saliva and gastric juice, and thereby aids the stomach in performing its proper functions.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Cambria, we are in receipt of our foreign journals to the 4th of October.

MARKERS.—*Ashes* limited sales. *Cotton* has fallen fully 4d per pound, particularly among the lower qualities. *Flour and Grain* quite active at a small advance. *Provisions* and other articles, little change.

Money was in great demand, and the interest paid in some instances, as high as 10 per cent. Many of the oldest and most respectable houses were daily stopping payment, and all confidence seemed to be destroyed. Nothing like the present state of mercantile affairs has been known since the bursting of the great South-Sea bubble.

The Crops.—There seems to be little difference of opinion as to the productiveness of the harvest of the United Kingdom. Barley is probably the greatest crop ever grown. Wheat, on the whole, has been good, and something better than last year, but the quality is not generally so fine. Oats prove a good fair crop. Beans and peas are deficient probably fully one-third. The potato disease is again spoken of, but as of a less destructive character than the last two years. There is, however, only one general opinion, that a considerably less breadth of land was planted with this esculent last season: the present price is about one hundred per cent. over that of ordinary seasons. Notwithstanding that a satisfactory result may be anticipated from the late harvest, the present and prospective rate of consumption is evidently greater than it is calculated to supply; and there can be but little doubt that in the course of the next twelve months, large importations of breadstuffs from abroad will be required, and obtained at moderate rates, as the continental and American harvests are reported of even more favorably than those of the United Kingdom.

Slaughter of Oxen and Sheep.—Within the last two years, 373,400 oxen and sheep have been slaughtered in New South Wales, in order to boil their carcasses for food.

Amount of Beet-Root Sugar in France.—The amount of beet-root sugar made in France during the present year is 107,590,110 lbs., being an increase of 26,596,432 lbs., on the quantity manufactured last year. The duty paid in the 12 months was £650,000 sterling.

Increased Culture of Tobacco in Algeria.—The cultivation of tobacco has so much increased in Algeria that nearly 300,000 kilogrammes (300 tons) will be purchased during the present year for the French Government, which monopolises the sale of tobacco in France.

Chemical Analysis of Tea.—In the memoirs of the London Chemical Society there is an interesting paper by Mr. Warrington, on the analysis of tea, in which he states that he has not only removed the whole of the coloring matter, or glazing, from green tea, but he has been able to analyse the matter removed, and to prove it, by chemical evidence, to consist of Prussian blue and gypsum principally. So that in fact the drinkers of green tea, as it comes to the English market, indulge in a beverage of Chinese paint, and might imitate the mixture by dissolving Prussian blue and plaster of Paris in hot water. The Chinese do not themselves drink this painted tea; they only sell it.—*Gardeners' Chronicle*.

Sowing Seeds.—It is not sufficiently known amongst gardeners, that their ineffectual endeavors to raise some plants from seeds, often arise from their being kept through the winter, for spring sowing. If the seeds of many herbaceous plants and seeds be not sown as soon as ripe, they never vegetate. This circumstance is interestingly alluded to in reference to the Cyclamen, in Maund's Botanic Garden and Fruitist. It is there remarked, "Cultivators overlook the fact, that the seed should be sown as soon as ripe; it never should be thoroughly dried; the plant itself asks, as plainly as plant can ask, for immediate sowing. The circling

downwards of its peduncles, with the seed vessels, after flowering, to convey the seeds to the soil, should be our lesson. Here nature suffers not the seeds to dry, by suspension in the atmosphere; but, by independent locomotion, the plant nestles up its brood, and even previously to the maturity of its offspring, conveys them in her bosom to the earth."—*Gardeners' Chronicle*.

Bones as Manure.—The researches of the chemist and the practical testimony of the farmer having more fully established the value of bones as a manure, not for turnips only, but for various other crops, it behoves us to ascertain whether they have been employed in gardening as extensively as they deserve. If we find they have not, we ought to lose no time in making use of them. The greatest obstacle to the more general use of bones in gardening, as well as in farming, is their undergoing decomposition so very slowly. But this difficulty is got over by dissolving them in sulphuric or muriatic acid. This plan, however, though excellent as far as turnip-culture is concerned, must be defective, inasmuch as it confers no lasting or permanent benefit on the land. Professor Way prefers using two parts of the bones undissolved, on the principle of their more continued and permanent benefit. I would, however, very particularly direct attention to a sort of bone-manure not in general use (perhaps owing to its limited supply), which, being very fine, requires no digesting with sulphuric or muriatic acid, and which is both immediate and permanent in its effects. This bone-manure is the saw-dust of a button factory. I do not know what quantity of this dust is to be had annually in this country, but this I do know, that if we could reduce our bone-manure to the finely divided state of this dust, we should then have a most valuable fertilizer without additional labor or expense. [Ground bones or bone-ash is much the same thing.]—*Ibid*.

Harvests without Previous Sowing.—In the Schnell-post we find an account of a method of compelling the wheat-plant to become perennial, like grass, and to perfect its grains annually without the yearly sowing of seed, which has been successfully practised at Constance, in Germany. It was discovered by a steward of an estate named Kern. His method, after plowing and manuring the land and sowing it with summer or winter wheat, is, to mow it in the spring before the ear makes its appearance. This process is repeated several times in the season, and the product is used as hay. The plant is then allowed to grow and be cut in the ordinary manner. The next year it ripens earlier and bears more abundantly than wheat treated in the ordinary manner. It is mowed in the autumn like grass in the meadows, and in spring cleared from weeds. In this manner, from one field four successive harvests have been gathered.

Rules for Gardeners.—Study to produce, in perfection, vegetables, fruits, and flowers in their proper season. Strive to render a just equivalent to your employer for the expense he incurs. Be careful of everything put into your charge. Let all your operations be performed with neatness, and endeavor to preserve this general appearance in the grounds, gardens, and houses under your control. Never defer until to-morrow what ought to be done to-day. Time and nature will not wait, and the proper season will be neglected; nothing is gained by procrastination, but a great deal lost. Be punctual in hours of attendance, and waste no time during working hours. Care, attention, and management do more business than strength and expenditure. As far as practicable, finish one piece of work before another is commenced. Bear in mind self-improvement. Exercise the memory on all occasions, and anticipate the wants of every season. Provide against the contingencies of the weather. Have some work in reserve for a rainy day. Read these rules over frequently, and try to keep them in your recollection.—*Gard. Chron.*

Editor's Table.

VIRGALIEU OR WHITE DOYENNÉ PEARS.—Will any one who has two or three hundred of this kind of pear-trees for sale, inform us what is the lowest price he will take for them?

FLORAL EXHIBITION OF THE BROOKLYN INSTITUTE.—This pleasing anniversary was opened at the Lyceum, in Washington Street, on the 25th of September, and continued open three days. Although not large in number, the articles exhibited were very choice of their kind, and gave universal satisfaction to the numerous visitors present. Among the fruits particularly worthy of notice, were Isabella grapes, from George Woodward, of Port Chester, three inches in circumference; peaches, oranges, melons, &c., from Story and Shaw, of Brooklyn, preserved by ice, after Kephart's method; preserved strawberries and gooseberries from England, by Mr. Thomas S. Woodcock; quinces and ox-apples from Henrys, of Brooklyn, twelve inches in circumference; and Duchess d'Angoulême pears, from L. Provost, of Astoria. The hall was splendidly decorated with bouquets and flowers, among which were choice collections of dahlias from J. M. Thorburn, of Astoria, and Dunlap and Thomson, of New York. The garden vegetables exhibited were very fine and large of their kind, a squash in particular from Henrys, which weighed 125 lbs.

A NEW MEDICAL DICTIONARY; containing an Explanation of the Terms in Anatomy, Human and Comparative, Physiology, Practice of Medicine, Obstetrics, Surgery, Therapeutics, Materia Medica, Pharmacy, Chemistry, Botany, and Natural Philosophy, with the Formulas of the Principal Pharmacopœias, and valuable Practical Articles on the Treatment of Disease. On the Basis of Hooper and Grant. Adapted to the Present State of the Science, and for the Use of Medical Students and the Profession. By D. Pereira Gardner, M.D., Professor of Chemistry and Medical Jurisprudence in the Philadelphia College of Medicine. New York: Harper & Brothers, pp. 686, 8vo. Price \$2.50. Dr. Hooper's Medical Dictionary has been, since its first appearance in London, a standard in the profession. The edition on which the present work is based has been completely revised and considerably improved by Professor Klein Grant, a gentleman of distinguished medical celebrity, before its revision by Dr. Gardner, who has produced a dictionary entirely adapted to the use of medical students, retaining, at the same time, most if not all the practical matter of previous writers, so as to make it equally invaluable to the general practitioner. He has made an addition of several thousand articles, and more especially in the modern improvements in the departments of chemistry, physiology, surgery, and the practice of medicine. We warmly commend this work to the notice of our medical friends and apothecaries, and should judge that it would be indispensable to any member of the profession.

NORMAN'S SOUTHERN AGRICULTURAL ALMANAC, for 1848. Edited by Thomas Affleck, Esq. New Orleans: B. M. Norman, pp. 106, 12mo. This little publication is got up with much care and ability, and is devoted exclusively to the agricultural interests of the South; and in addition to the calendar, it contains sundry statistical tables and practical essays on the sugar and fodder crops, forest-trees and their uses, turpentine, rosin, pitch, tar, stable arrangements, &c., &c. To the manufacturer and dealer in agricultural implements and machines, in farm and garden seeds, to the grower of fruit-trees and shrubs, and the breeder of fine stock of every kind, the advertising pages will be found particularly useful.

THE PLANTATION RECORD AND ACCOUNT-BOOKS; by Thomas Affleck, of Washington, Mississippi. These are large, handsomely bound, blank books, arranged

for keeping every account and record required on the plantation. Mr. Affleck has rendered an important service to the planting community in thus placing under their appropriate head, all the subjects necessary to be known and recorded; and we are happy to learn that his taste and labor have not only been properly appreciated, but also well rewarded, considering the novelty of the undertaking and the short time they have been published.

Mr. B. M. Norman, the enterprising publisher at No. — Camp street, New Orleans, has got them up in a most attractive style, and every way worthy the patronage of the planters, which we trust they will abundantly receive.

LANDRETH'S RURAL REGISTER AND ALMANAC for 1848. This is an unpretending pamphlet of 100 pages, devoted to the interest of agriculture, horticulture, and rural economy, and may be profitably read by every farmer of the land. It is handsomely got up and illustrated by numerous engravings.

FAILURE OF THE ALPACA PROJECT.—In the June number of this journal, it was stated that the services of J. D. Williamson had been secured by the committee appointed by the American Agricultural Association, for the purpose of introducing the alpaca into this country, and that he was to proceed forthwith to Peru, free of charge, in one of the United States ships, for the procurement of the animals, &c. We are now authorized to announce, from one of the committee, that, owing to the state of the funds of the Association, it was not deemed expedient to attempt the introduction of the animals without more efficient means, and that the funds already raised for the object will probably soon be returned to the subscribers.

AMERICAN HEMP.—We learn from the St. Louis Reveille that the receipts of the dew-rotted hemp at that place since the beginning of the present year more than double those of the whole preceding year. The receipts this year amount to 72,394 bales, while those for the corresponding period last year were but 27,948 bales, and for the whole year 34,853 bales. The receipts for 1844 amounted to 59,232, and those for 1845 were 30,997 bales.

VEGETABLE CURIOSITIES.—The editor of the Rochester (N. Y.) Advertiser says:—"We were yesterday shown a limb of an apple-tree which had upon it within the space of *seventeen inches*, no less than *sixty-five* apples! They were placed upon the stick like kernels upon a corn-cob. Yesterday, we saw a cucumber which 'beats all.' The length is *three feet eleven inches and a fraction*. Also, a branch of a peach-tree about two feet long, which bore *sixty-three* peaches!"

POTATO PLANTING.—Mr. Edward Williams, of Mount Pleasant, Maury County, Tennessee, communicated to the Council the favorable result he had obtained by planting potatoes in furrows of which the bottom was covered with cotton-seed remaining in the ground under such circumstances without vegetating. From three ounces in weight of seed-potato, he obtained a produce of 17 lbs. under favorable circumstances. He ascribes the success of his plan to the oily nature of the seeds, and to the protection which they afford to the potato plant in the early state of its growth, in consequence of their mechanical texture and their resistance to rapid conduction.

LECTURES ON AGRICULTURE AND CHEMISTRY AT YALE COLLEGE.—We would call the attention of our readers to the lectures of Professors Norton and Silliman, advertised in another part of our columns, as being justly worthy of their patronage. Professor Norton, the public are already aware, has taken ample time and special pains to prepare himself, in Europe, for the honorable station he holds; and Professor Silliman is no less distinguished in knowledge of the branches he professes to teach. The opportunity is a favorable one, and we trust these lectures will receive ample support.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, OCTOBER 23, 1847.

ASHES, Pots,	per 100 lbs.	\$6 50	to	\$6 56
Pearls,	do.	8 00	"	8 06
BALE ROPE,	lb.	5	"	6
BARK, Quercitron,	ton.	33 00	"	35 00
BEANS, White,	bush.	1 00	"	1 25
BEESWAX, Am. Yellow,	lb.	24	"	30
BOLT ROPE,	do.	11	"	12
BONES, ground,	bush.	45	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	25
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	12	"	14
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2000 lbs.	5 00	"	6 00
CORDBAGE, American,	lb.	11	"	13
COTTON,	do.	8	"	12
COTTON BAGGING, Amer. hemp,	yard,	15	"	16
FEATHERS,	lb.	28	"	33
FLAX, American,	do.	7 1/2	"	9
FLOUR, Northern and Western,	bbl.	6 50	"	6 75
Fancy,	do.	7 00	"	7 12
Southern,	do.	6 38	"	6 69
Richmond City Mills,	do.	—	"	—
Buckwheat,	do.	—	"	—
Rye,	do.	5 00	"	5 06
GRAIN—Wheat, Western,	bush.	1 40	"	1 50
Southern,	do.	1 10	"	1 38
Rye,	do.	90	"	92
Corn, Northern,	do.	73	"	75
Southern,	do.	70	"	72
Barley,	do.	78	"	81
Oats, Northern,	do.	48	"	50
Southern,	do.	44	"	47
GUANO,	do.	2 50	"	3 00
HAY, In bales,	100 lbs.	58	"	60
HEMP, Russia, clean,	ton.	225 00	"	230 00
American, water-rotted,	do.	160 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	8	"	9 1/2
HOPS,	lb.	8	"	11
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 50	"	4 56
Sheet and bar,	lb.	4 1/2	"	5 1/2
MEAL, Corn,	bbl.	3 00	"	3 75
Corn,	hhd.	17 50	"	18 00
MOLASSES, New Orleans,	gal.	32	"	35
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	2 31	"	2 38
Pitch,	do.	81	"	1 00
Rosin,	do.	60	"	75
Turpentine,	do.	3 37	"	3 50
Spirits Turpentine, Southern,	gal.	49	"	50
OIL, Linseed, American,	do.	65	"	75
Castor,	do.	1 20	"	1 25
Lard,	do.	80	"	85
OIL CAKE,	100 lbs.	1 25	"	1 50
PEAS, Field,	bush.	1 00	"	1 25
PLASTER OF PARIS,	ton.	2 25	"	3 00
Ground, in bbls.,	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	10 00	"	13 00
Prime,	do.	7 00	"	9 00
Smoked,	lb.	7	"	11
Rounds, in pickle,	do.	5	"	7
Pork, Mess,	bbl.	13 00	"	15 00
Prime,	do.	10 00	"	12 00
Lard,	lb.	10	"	11 1/2
Bacon sides, Smoked,	do.	6	"	8
In pickle,	do.	5	"	7
Hams, Smoked,	do.	8	"	12
Pickled,	do.	6	"	10
Shoulders, Smoked,	do.	6	"	8
Pickled,	do.	5	"	7
RICE,	100 lbs.	3 88	"	5 00
SALT,	sack,	1 40	"	1 50
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	6	"	9
Timothy,	bush.	1 75	"	3 50
Flax, clean,	do.	10 00	"	11 00
rough,	do.	9 25	"	9 50
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	3
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	6	"	9
SUMAC, American,	ton.	35 00	"	37 00
TALLOW,	lb.	9	"	10
TABACCO,	do.	3	"	8
WHISKEY, American,	gal.	32	"	33
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	30	"	35
Half blood,	do.	20	"	25
Common do.	do.	18	"	20

REMARKS.—Cotton has fallen from 2 to 2 1/2 cents per lb. since our last. Flour has advanced from 75 to 100 cents per barrel. Grain has followed in proportion. In other articles the change in prices is unimportant.

Money continues abundant and business good. The Weather has been very favorable for getting in the fall crops, and we now have good accounts from the South, in regard to its great staples. The potato-rot is quite prevalent at the North, and we fear considerable losses of this valuable esculent.

ACKNOWLEDGMENTS.—List of Premiums awarded at the show of the Essex Co. (N. J.) Institute, held at Newark, on the 24th of September; List of Premiums of the Hartford (Ct.) County Agricultural Society; List of Premiums of the Chittenden County (Vt.) Agricultural Society; List of Premiums of the Dutchess County (N. Y.) Agricultural Society; List of Premiums of the Greene County (N. Y.) Agricultural Society; Annual Descriptive Catalogue of Agricultural Implements, and Horticultural Tools, and Field, Grain, and Garden-Seeds, for sale at the Albany Agricultural Warehouse and Seed-Store by Luther Tucker.

TO CORRESPONDENTS.—Communications have been received from G. P. Lewis, W. Wheddon, E. S., C. N. Beiment, A New Yorker, J. P. Norton, F.

S. J. J., of Shoalford, Ala., will find that the most effectual way of destroying sassafras bushes is to eradicate them root and branch with a plow or bush-puller. If this mode is too expensive he is recommended to try the plan suggested on p. 235, in our August number.

A Norway subscriber is informed that there are horse mowing machines in existence which work well in large level fields, but are useless on rough ground. We know of no machine better than the common scythe for mowing marshes where the ground is too soft to bear up a horse.

PUBLISHERS' NOTICE.

THE publishers respectfully request all persons indebted to them for the paper, or for advertisements (and those to whom bills have been sent), to remit the amount during this present month, November. A large number of subscribers are yet indebted for the Vol. for 1846, as also, for 1847, now near its close. The Agriculturist was continued to their address to save them trouble (a request being made in the January number that it might be returned if not wanted), and we hope no one will, through neglect, subject us to loss for the accommodation. The heavy expense of publishing our paper compels us to call upon our friends in this manner. The individual amounts due are quite small and apparently unimportant, but the aggregate is large and the receipt of these small amounts would enable us to go on with renewed zeal.

N. B. Persons forwarding Two dollars, will be furnished three papers for one year or one paper for three years; for five dollars eight copies will be furnished. All moneys should be sent to C. M. SAXTON, 205 Broadway.

PERUVIAN GUANO.

FOR Sale at Bating Hollow, Long Island, by AZEL DOWNS.

FOR SALE.

FOUR Merino Bucks, bred by David C. Collins, of Hartford, Ct., got by Mr. Collins' imported Rambouillet buck, Grandee, out of choice Ewes, selected from the flock of Mr. Blak-slee, Watertown, Ct. Inquire of A. B. Allen, 187 Water St.

A. STEVENS.

SUPERIOR SAXONY SHEEP.

THE Subscriber now offers for sale a superior lot of young Saxony Sheep, bred from a recent importation, selected expressly for him from the most celebrated flocks in Germany, by John A. Taintor, of Connecticut, when in Europe last year. Apply to S. C. SCOVILLE, Salisbury, Ct.

or A. B. ALLEN, New York.

CRANBERRY PLANTS.

SEVERAL thousand Cranberry plants for sale, carefully done up in boxes, in quantities to suit purchasers. Price \$7 per thousand, or \$1 per hundred.

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CORN-MILLS.

THE subscribers are now supplied with a newly invented Cast-Iron Mill, for grinding Corn and other Grain, either by hand or horse power. It will grind from 3 to 4 bushels per hour. Price \$30.00.

Also the hand Corn-Mill, which grinds from 1 to 1 1/2 bushels per hour. Price \$6.50.

These Mills are highly economical and convenient, and every farm and plantation ought to have them. They are simple in construction, not liable to get out of repair, and are easily operated. When one set of plates is worn out, they can be replaced by others at a trifling cost.

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RECENTLY PUBLISHED

WEBSTER'S OCTAVO DICTIONARY, REVISED,

EMBRACING ALL THE WORDS IN THE NEW QUARTO EDITION.

BY HARPER & BROTHERS, 82 CLIFF STREET, NEW YORK.

DR. WEBSTER'S DICTIONARY OF THE ENGLISH LANGUAGE, Exhibiting the Origin, Orthography, Pronunciation, and Definition of Words, &c., in one handsome Volume, of nearly fourteen hundred pages. Sheep extra. Price \$3.50. Thoroughly Revised and considerably Enlarged. By Prof. CHAUNCEY A. GOODRICH, of Yale College; Assisted by a number of gentlemen distinguished for their high attainments in the various departments of learning, whose names will be found in the Preface.

The entire work has been re-stereotyped, and is now beautifully printed upon a new set of plates.

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Great attention has been given in the revision to the pronunciation. A large number of words having been re-spelled, it will now be found to be a complete *Pronouncing Dictionary*.

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The utmost care has been given in every department of the work to render it the most perfect and satisfactory ever offered to the public. Considering its comprehensiveness, its numerous essential improvements and its general utility, it will be found one of the most indispensable and cheapest books of the times.

For a more particular statement of the principles on which the revision has been conducted reference is made to the preface of the work, a few brief extracts from which are subjoined.

"By successive revisions, the fruit of nearly three years of care and attention, a very great amount of valuable matter has been added. It is now made, in all important respects, consistent with the larger work, and presents, on a reduced scale, a clear, accurate, and full exhibition of the AMERICAN DICTIONARY in all its parts.

"One new feature is now added to this volume by making it a *Synonymous Dictionary*. Every one engaged in literary composition has felt at times the want of a work that shall present, under each of the important words, a list of others having the same general import.

"The chief value of a dictionary consists in its *definitions*—in giving a clear, full, and accurate exhibition of all the various shades of meaning which belong, by established usage, to the words of a language. It is in this respect especially, that Dr. Webster's dictionary has been generally considered superior to every other, both of this country and of England. To this point, therefore, the labors of the editor have been mainly directed. No efforts have been spared to obtain the most recent and valuable works, not only in lexicography, but in the various departments of science and the arts embraced in the *American Dictionary*. As these subjects are in a state of continual progress, every important word, in its various applications, has been diligently examined and compared with the statements made on each topic by the latest and most approved authorities.

"On the subject of *pronunciation* much labor has been bestowed. A careful comparison has been made with the latest authorities, and wherever changes seemed desirable, and could be made in consistency with the author's principles, they have been here introduced. The key to pronunciation has been somewhat enlarged, and the pointed letters have been used to a still greater extent. Many thousand words have been re-spelled, and no efforts have been spared to render the work, in all respects, a complete pronouncing dictionary.

"The *Synopsis* of Words differently pronounced by different Orthoepists, has been completely remodelled.

"Walker's Key to the Pronunciation of Classical and Scriptural Names, which was connected with this Dictionary as an Appendix, in the edition of 1829, has now been enlarged and improved. More than three thousand words have been added.

"The publishers of this work have been desirous to add to the volume a *Vocabulary* of Modern Geographical Words with their

proper pronunciation. They have accordingly had one prepared by an associate editor of Baldwin's Universal Pronouncing Gazetteer, an account of which will be found in the preface which accompanies the Vocabulary."

Extracts from Critical Notices.

"We have, in this fine octavo volume of fifteen hundred pages, closely yet clearly printed in double columns, the most complete and thorough manual of our language yet offered to the public. Such is the decision of some of the leading philologists of England, and such seems to be the growing conviction throughout our own country. The work, as originally prepared by Dr. Webster, was a monument of learning and ability which has won for him the most distinguished reputation. But since his death it has been subject to the constant, protracted, and earnest labors of a number of scientific and literary gentlemen, who have carefully revised every part of it, corrected all errors, added many thousands of words, enlarged and made more copious as well as more accurate the definitions, introduced throughout *synonymes* to the words, and in every possible way increased its value and its utility.

"The result of their labors has been the production of an English Lexicon, which cannot fail to come into universal use, not only in all schools and academies, but with every practical person and general reader, who, in making use of our language, would refer to the latest and most accessible authority. For this end, the present edition of Webster's Dictionary has been introduced in a form admirably adapted to give it that universal circulation to which, by its substantial merits, it is so well entitled."—*Literary World*.

"Thus it will be found equally valuable to the merchant, the scholar, and the general reader. The work is published in the usual excellent style of the Harpers, nothing is omitted that can be of service, and it undoubtedly is upon the whole the cheapest and best dictionary of any language in any country—a work which we consider to be a *sine quâ non* to the library or desk of all men."—*Island City*.

"The great value of every dictionary, intended for general use, consists in its *definitions*. In this respect, pre-eminence has universally been given to Webster; and it is mainly upon this department that the labors of his successors have been bestowed. The utmost pains have been taken to render every definition full, clear, and exact; and to effect this, the aid of scientific treatises, encyclopedias, and eminent men has been freely and constantly enjoyed. A dictionary of *synonymes* has been incorporated into the body of the work. We have no hesitation in pronouncing it to be, by all odds, the most complete, accurate and comprehensive English dictionary ever offered, at a price and in a form so cheap and convenient, to the American public."—*True Sun*.

"The high reputation which Dr. Webster has sustained as a profound Lexicographer, and as the author of the standard Dictionary of the English language, both in this country and in Europe, is a sure guarantee that it will meet with popular acceptance.

"No one ever labored more assiduously and successfully in throwing a strong and steady light upon the English Language than Dr. Webster. Besides, he has done more towards extending the vocabulary of our language and giving it a fulness of definition commensurate with the progress of the language as written and spoken, than any other Lexicographer."—*Teacher's Adv.*

"The work in its present form is undoubtedly the best English Dictionary ever published. It is complete in all its parts,—many thousands of new words have been added to it—a vocabulary of Modern Geographical Names, with their pronunciation, has been appended,—and in every possible way the work has been adapted to the wants of the great body of the people. It is published in one large handsome volume, printed in close type, large pages, and double columns, and offered at so low a price as to render it universally acceptable. We have no doubt it will speedily find its way not only into all the schools and academies of the country, but to the desk of every student and the fireside of every family, as the invaluable and indispensable companion of all who in any way use the English language."—*Mirror*.

"This is beyond all doubt the most complete and perfect edition of Webster's well known dictionary that has ever been published. * * * It cannot fail to find access to every library, into every school, and into every family. We commend it most heartily to the attention and favor of our readers."—*Sun*.

INSTRUCTION IN CHEMISTRY,

And the Connected Sciences, at Yale College, New Haven, Ct.

THE new Laboratory of Analytical Chemistry, connected with this Institution, will be opened on the first of November. Pupils will however be received and temporarily accommodated on the 1st of October. The Department of Chemistry applied to the Arts, &c., will be under the charge of Prof. B. Silliman, Jr. That of Chemistry applied to Agriculture, will be under the charge of Prof. John P. Norton.

Every facility will be afforded to members of the College and all others who may wish to acquire a thorough knowledge of Elementary or Applied Chemistry, Mineralogy, and Metallurgy, and the terms of tuition will be as moderate as the nature of the case will admit, and proportioned to the requirements of the pupil.

The Annual Course of Lectures on Elementary Chemistry, by Prof. B. Silliman, will commence on the 2d of October, at 12 M., and continue with five lectures each week until about January 1st. Tickets \$15.

Prof. Norton will commence a Course of Lectures on the Application of Science to Agriculture, in January, 1848. This course will continue about two months, and there will be four lectures in each week. The object of these lectures will be to give the Farmer or others, a clear and connected view of both science and practice in their relations to each other. Experiments will be given, when they are necessary, to the clear understanding of the subject. The fee for this course will be \$10.

Soils, rocks, minerals, metallic ores, and other substances, will be promptly analysed on moderate terms.

Arrangements will be made by which pupils in these departments can enjoy the advantage of attending to other courses of instruction in science, in this institution, which are open to the public; and they can also have easy access to large libraries and scientific collections. New Haven is a place of easy access from all parts of the Union, and is the resort of nearly six hundred students in the various departments. Board and lodging are procurable on very moderate terms.

Additional particulars will be promptly supplied on application by letter or otherwise to B. SILLIMAN, JR.
J. P. NORTON.

New Haven Ct., Sept., 1847.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

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A. B. ALLEN, Editor.

HARPER & BROTHERS, Publishers.

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No. 1 of volume vii., will be promptly issued on the 1st of January next, for which the publishers confidently trust that all those who have taken the present volume will not only renew their subscriptions, but persuade as many of their friends and neighbors as it is possible to take it. When we consider the extremely low price of the *Agriculturist*, the value of its contents, and the handsome manner in which it is got up, it is a wonder that it is not in the hands of every family in America. We fearlessly assert, that a single number has never been issued that is not worth a year's subscription to the farmer who has carefully read and digested its contents. How valuable to him, then, a regular perusal of the whole volume.

Subscribers will please to recollect, that the subscription is *payable in advance*. Many have requested that the paper might be continued to them if the money was not promptly forwarded for it. Being desirous of doing all in their power to accommodate subscribers, the publishers have frequently acceded to this request; but the amount of subscription is so small, and the delay and trouble in collecting it proves so great, that they have decided in all cases hereafter, to adhere strictly to their terms of *payment in advance*. Subscribers would never make objection to this decision if they had any idea of the loss and trouble of conducting a periodical when any other course is pursued. The publishers would gladly make exceptions to this rule in favor of

those with whom they are personally acquainted, but they find it so inconvenient that it cannot well be done.

Terms for single copies \$1; three copies \$2; eight copies \$5. The last price makes the paper cost only *sixty-two and a half cents* per volume. Who would not take it at this very low price? We hope many will be induced to club and order it—they cannot do themselves a greater benefit.

FARMERS' WINTER WORK.

NOTHING is of more importance to the agriculturist than to have all the operations of the farm attended to in their proper season. "Let the farmer drive his work, not let his work drive him," is a good motto, which every one will do well to practise upon. Among those things which can best be done in winter, and most inconveniently in spring, is the removal of the manure-heaps to their proper places. While the sledding is good or the roads hard and smooth, the cattle and their owners have little to do. All the manure which can be easily got at, should be removed to the field where wanted. There is no more danger of its loss while piled up there and uncovered, than while lying around the barn. It will not decompose in severe weather, and whenever a slight thaw takes place, a sufficient quantity of earth will be loosened from the frost, which can be thrown on it. A better plan is to have muck heaps, or piles of peat taken to such parts of the fields, as it is intended to draw the manure, and spread them plentifully over the manure as it is drawn out. This will absorb all the gases from the decomposing manure, while the peat undergoes salutary changes from the air and rain, and frosts itself, which tend to prepare it as a fertilizer. The intimate blending or intermixture of this with the manure when spread on the land will insure the

greatest efficacy of both. By thus disposing of a considerable part of the manure during the winter, a tedious job of hauling in the spring, when plowing, planting, and numerous other demands are made on the farmer's time, is avoided, and that too, frequently when the roads are almost impassable from mud, and the manure itself is saturated with spring rains, and after having lost no inconsiderable portion of its value from its decomposition and the escape of its most valuable gases; this effect being much promoted by the greater heat, occasioned by the large accumulation of the manure around the well-sheltered buildings and yards.

APPLE-ORCHARDS.—No. 4.

Protection of Trees against Stock.—When young trees have been carefully planted and well fenced, they will require but little attention, except that of keeping up the fences, and to see that they are not shaken by the wind. The mode of fencing must be suited to the kind of stock kept in the orchard. If sheep only are depastured, each tree may be closely surrounded by strong thorns stuck in the ground, enclosed and sustained by thick stakes, firmly driven, and reaching nearly to the forks. These stakes should be strongly bound together by bands or withes; and, as a further precaution against damage from the gnawing of sheep, at any exposed place, the tree should be washed or smeared with a mixture of creamy lime and green cow-dung, which should be renewed, from time to time, as occasion may require. If it be indispensable to stock the orchard occasionally with large cattle, each tree must be fenced by two or three strong, rough posts, firmly fixed in the ground, and united by strong batens or short rails, nailed to each. In some situations, where suitable stones abound, the trees are sometimes surrounded by circular walls.*

Orchards may be Tilled or Plowed.—In answer to the question often asked, "whether orchards ought to be plowed?" we would reply, that it is an old and prevalent opinion that fruit-trees of every kind are improved and rendered better, by having the ground stirred round them, in order to let in the dew and air to their roots. And with this view, orchards have often been tilled for potatoes, grain, and other crops, to which there are two striking objections; first, they require the light of the sun, and will not well flourish under the shade of trees; and second, that being exhausting crops, they impoverish the soil, which is so far injurious to the apples, both in quantity and quality. But the Jerusalem artichoke (*Helianthus tuberosus*), which is extensively cultivated on the banks of the Rhine, rather prefers the shade, and would therefore thrive well under the trees; and, so far from exhausting the land, will, it is said, bear abundantly for ten or more years in succession, without manure, even upon poor soils. It has been further stated, that it does not require much tilling after it has once been planted; for it is only necessary to draw the tops out of the ground, when ripe, the remaining roots being sufficient to produce the next year's crop, without fresh setting, and thus they continue from year to year until they die of old age. All these properties seem to render this plant suitable for orchards; the pulling it up will open the ground, while the

avoidance of digging, after once set, will spare the roots of the trees many a wound. It also possesses the rare property of absorbing nitrogen largely from the atmosphere, which is probably the reason of its thriving so well without manure, and consequently improves the condition of the soil. It is planted in drills similar to potatoes, and like them, its roots are employed for food for man and animals. It has been observed that orchards, when plowed, often rapidly advance to a certain point, and then cease to flourish; but this is believed to be caused by planting the trees too near each other, and by plowing between them, hurries their roots towards each other until their interference checks their future growth. The chief objection to plowing an orchard is, that, in a hilly country, having a soil easily carried off by water, such a soil, if kept bare and loose, will, in time, become sensibly diminished, where horizontal furrows are insufficient to remedy the evil. But this circumstance ought to forbid the use of the plow, not only in an orchard, but for any object whatever, in such a situation. In plowing an orchard, care must also be observed not to go too deep amongst the roots, which would greatly damage the trees by the wounds they would receive.

THE DOMESTIC FLORA OF CHINA.—No. 6.

Trees and Shrubs.—The only trees to the cultivation of which the Chinese pay any attention, are the fruit-bearing kinds; and in some places there are very fair orchards containing the mango, leechie, longan, wangpee, orange, citrons, and Pume-loes.

All the peaches, grapes, pears, plums, oranges, &c., which are brought to the markets of Tinghae in the summer season, are from the main land. There are, however, two fruits cultivated on the island of Chusan, which are of considerable excellence; the one is called *Yangmai*, a scarlet fruit, not unlike an arbutus or strawberry, but having a stone like a plum in the centre; the other is the *kum-quat*, a small species of citrus, about the size of an oval gooseberry, with a sweet rind and sharp, acid pulp. This fruit is well known in a preserved state by those who have any intercourse with Canton, and a small quantity is generally sent home as presents every year. Preserved in sugar, according to the Chinese method, it is excellent. Groves of the kum-quat are common on all the hill-sides of Chusan. The bush grows from three to six feet high, and, when covered with its orange-colored fruit, is a very pretty object.

The tallow-tree (*Stillingia sebifera*) is abundant in the valleys of Chusan, and large quantities of tallow and oil are yearly extracted from its seeds; tallow mills are erected in several parts of the island for this purpose. The *Laurus camphora*, or camphor tree, is also abundant, but no camphor is extracted or exported from the island. The green tea shrub (*Thea viridis*) is cultivated everywhere; but if we except a small quantity which is annually sent over to the main land—to Ningpo and the adjacent towns—the whole is used by the inhabitants themselves. Every small farmer and cottager has a few plants on his premises, which he rears with considerable care, but seems to have no wish to enter on its cultivation on a larger scale. Indeed it is questionable if it would answer, as the soil is

* See Journ. Roy. Agr. Soc. of England, iv., pp. 390 et seq.

scarcely rich enough; and although the shrub grows pretty well, it is far from being so luxuriant as it is in the larger tea districts on the main land. The forests of different varieties of bamboo are very striking, and give a kind of tropical character to the Chusan scenery. I do not know anything more beautiful than the yellow bamboo with its clean and straight stem, and graceful top and branches waving in the breeze; it always reminded me of our young larch forests at home. The fir tree, found in the south, is also common in this part of China. It seems to be an exception to a general rule, being met with all over the country, and in every degree of latitude. Here the *Cunninghamia sinensis*, another of the pine tribe, is also found in abundance. It is more rare in the south. Besides these there are several species of cypress and juniper, which are always found growing around the tombs of the wealthy, which are scattered over the valley and hill-sides.

I have already mentioned the clumps of cypress and pine-trees planted in the cemeteries of the rich, which are seen studded all over the country, and form one of its most striking features. Among these, I met for the first time with the beautiful *Cryptomeria japonica*, a species of pine not unlike the *Araucarias* of Norfolk Island and Brazil. When growing luxuriantly, it is highly ornamental, rising from the ground as straight as a larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and "weeping" manner. The wood of the tree has a kind of twisted grain, and possesses great strength and durability.

A great number of the common fruit-trees of the country grow all over the plains and near the side of Canton River. The mango, guava, wangpee (*Cookia punctata*), leeches, longan, oranges, and pumeloës, are the principal kinds. Besides these, there are the cypress, thuja, banyan, and other kinds of fig-trees, and a species of pine, called by the Chinese the *water-pine*, from its always growing by the sides of the rivers and canals. The bamboo, and a sort of weeping willow very much like our own, are also frequently met with. The name which the Chinese give to the latter is the "sighing" willow, coinciding rather curiously with our own term of "weeping," and when taken in connexion with the historical fact of the Jews weeping by the streams of Babylon, and hanging their harps upon the willows, shows that this is regarded as the emblem of sorrow as universally as the dark and sombre pine and cypress are considered in all countries fit companions to the cemetery and churchyard.

The only tree which I met with of very large size in the district of Shanghai, was the *Salisburia adiantifolia*, commonly called the Maiden-hair tree, from the resemblance its leaves bear to a fern of that name. This is one of the plants which the Chinese are fond of dwarfing, and it is consequently often seen in that state in their gardens. Its fruit is sold in the markets in all Chinese towns by the name of "*Pa-Kwo*," and is not unlike dried almonds, only whiter, fuller, and more round. The natives seem very fond of it, although it is rarely eaten by Europeans.

The principal shrubs growing in the Fa-tee Gar-

dens are the *Azalea indica*, *indica alba*, *phœnicea*, *laterita*, *variegata*, and the yellow *Azalea sinensis*. I may mention in passing, that I found the latter plant wild on the Ning-po hills, so that there is no doubt of its being a genuine Chinese species. The air at this season around Fa-tee is perfumed with the sweet flowers of *Olea fragrans*, and the *Magnolia fuscata*, both of which are grown extensively in these gardens.

Tree pæonies are not natives of the south of China, but are brought down in large quantities every year, about the month of January from the northern provinces. They flower soon after they arrive, and are rapidly bought up by the Chinese to ornament their houses, after which they are thrown away, as they do not thrive well so far south as Canton or Macao, and will not flower a second season.

On the island of Poo-to-san, the *Camellia japonica* grows spontaneously in the woods, where we met many specimens from twenty to thirty feet in height and with stems thick in proportion. The variety, however, was only the well-known single red.

CUTTING HAY FOR STOCK.

It has frequently been asked how cutting hay for stock adds to its nutritive qualities. It is precisely upon the same principle as cutting up meat fine and making a mince of it. There is more or less nutriment in the tougher pieces, and even gristle, if these are cut fine with the chopping knife; and nicely cooked and agreeably seasoned, the dish is eaten with peculiar relish, easily digests, and goes twice as far as in the ordinary method of taking meat in slices; for under such circumstances we reject all that is not tender, juicy, and particularly palatable. In cutting hay all the coarser parts and even straw are made agreeable to the taste of animals, especially if it be cut up and spiced with a little meal, shorts, or bran. Nor have they the power to reject any part when cut up, and as all is more or less nutritious the hay must go further; nor can it be pulled out and wasted as when fed loose. Another important consideration is, an animal can fill its stomach much more easily and readily on cut than uncut food, and can then lie down and ruminate, and rest, allowing the food full time to digest and distribute its strengthening qualities throughout the system, and renovate it for renewed exertions.

AMERICAN FRESH MEATS IN ENGLAND.

CONSIDERABLE quantities of fresh carcase pork were carried to Liverpool in our packet ships during the past winter, and sold at a large profit in the fresh meat markets of that city. Why could this not be made a good winter business with our city butchers, and such graziers as live in the vicinity of the railroads? The only objection to an extensive business of this kind—ice and cold weather permitting—is, the absence of the right kind of animals to send to the English markets. Such meats as pork, beef, and mutton, saying nothing of poultry: of which we could also send hundreds of tons, are worth in the Liverpool and London markets 12 to 18 cents per pound, at all times. And now, duties off, the expense of freight is a mere trifle—a bare per centage of their value. But such meats to be profitable must be good—better in the beef and mut-

ton line than we are accustomed to see generally in our city markets. We may, however, readily get into them, and it only requires that the farmers adopt the best breeds of foreign cattle and sheep now plentifully scattered throughout our country, to produce as fine and desirable meats as the English themselves can do.

In cattle, the Short-Horns, the Herefords, and the Devons possess all the fine qualities for fattening purposes, being the best seen in the English markets; while in sheep, the Southdowns yield the most desirable mutton. They are comparatively plenty in the United States, and of excellent quality, and altogether cheaper here than in England. Indeed we do not know of better investments for our farmers in the extensive grazing districts bordering on railroads and canals, than to obtain animals of these valuable breeds, and go at once into breeding and preparing them for the English markets. As lean stock, if of the right kind, they may be transported to the graziers in the neighborhood of our cities during the fall of the year, and then fed off for a winter market; or, if equally convenient, better fed and fattened at home, and in winter slaughtered and sent by railroad to the cities for exportation.

The experiment of exportation has been tried and found successful; and there will be plenty of buyers who will embark the necessary capital and go permanently into the business. But it will be useless to send poor and half fed meats to England. The carcasses must be *fat*, and to be *profitably* fed, they must be of such kind as will take on flesh kindly, fatten rapidly, and show well in market. Such animals will always sell at a round profit; but such too, we are sorry to say, do not exist either in our common American cattle or sheep. We must resort to the best foreign blood, and their crosses on our native stock, to a high degree for that purpose. We hope to see this branch of husbandry become extensively pursued.

CULTIVATION OF TURNIPS.—No. 6.

Feeding Milk Cows.—In comparing the chemical analogy that exists between the inorganic constituents of the turnip and those of the milk of the cow, it will be seen that this kind of green food is particularly adapted for cows giving milk. By referring to the analyses of the ash, on pp. 299 and 300 of the current volume, it will be observed that turnips are rich in phosphoric acid, which chiefly occurs in combination with lime, thus forming bone-earth, or phosphate of lime. Now milk is also very rich in phosphates, as will be seen by the following tables, from Professor Johnston, and instances are on record where some descriptions of cheese contained more than 60 per cent. of phosphates—the phosphoric acid being nearly all in combination with lime.

According to Professor Johnston, 1,000 parts by weight of cow's milk was composed of

Butter,	27 to 35
Cheesy matter (casein),	45 " 90
Milk-sugar,	36 " 50
Chloride of Potassium, and a little of sodium. 14 }	
Phosphates—chiefly lime,	24 }
Other salts,	6 }
Water,	882½ 815
	999½ 1,000

From the above table, it is obvious that the composition of milk varies, so that it is reasonable to suppose that it will be greatly influenced by the food received by the cow; therefore, the farmer, whose only manufacture from milk is butter, would do well to feed his cows on substances that are fatty and rich.

In another table of the analysis of the inorganic constituents of milk given by Professor Johnston, from Haidlen, 1,000 lbs. of milk of two different cows, yielded in pounds of

Phosphate of lime,	2.31	3.44
Phosphate of magnesia,	0.42	0.64
Phosphate of peroxide of iron,	0.97	0.07
Chloride of potassium,	1.44	1.83
Chloride of sodium,	0.24	0.34
Free Soda,	0.42	0.45

580 6.77

It will be noticed by this table that the quantity of salts left by the milk of different animals somewhat varies. By comparing this table, also, with the tables of the inorganic parts of the turnip, pp. 299 and 300 of the present volume, it will be seen that the turnip contains all the substances that are contained in the salts of the milk.

Different varieties of turnips affect the quantity of milk. For instance, the white kinds cause the cows to produce a far larger supply, but of an inferior quality, as far as butter is concerned, than the yellow varieties. In so great a degree is the quantity of milk larger from the cows on the white, that the supply of butter in the end is larger from the same cows than when they receive the yellows.

On farms where the quality rather than the quantity of milk is regarded, the turnips may be consumed in the fall, when the cows are taken up and housed, on the failure of grass or green feed, and be fed with the softer, more watery, but sweeter sorts, such as the various kinds of whites, tankards, globes, &c. On these, the cows are said to give a larger quantity of milk than on the harder and more solid varieties. Consequently, they are kept on these so long as they will last. The various kinds of yellows may next be given, and in some instances they may be continued until the grass is available again in the spring, and no Swedes (*ruta-bagas*) need be used; not that there is any objection to them, but that they require a more fertile soil.

An objection has been raised by some to Swedes, from a notion that they "taste" the milk more than other kinds of turnips; but such is not the case. A slight disagreeable flavor, it is true, is sometimes given to milk and butter when the cows are fed on turnips; but this can entirely be removed, by putting in each pan, before pouring in the milk, a pinch or two of saltpetre (nitrate of potash).

The turnip, in the day-time, is usually given to the cows raw, well washed, and sliced; but at night, a good mess of cooked food is preferable, given with as much hay as they will eat, care being taken that it be sweet. Many give sweet straw, which, although not so good as sweet hay, is to be preferred to hay that is in any way inferior or damaged. Of the descriptions of cooked food, of which turnips form a chief ingredient, there are many kinds. In Ayrshire, in Scotland, they take a bushel of chaff (cut hay and straw, with the chaff of grain),

and eight or ten sound yellow or Swedish turnips, having the tops and tails carefully taken off, and boil them together four or five hours. To this they add as much water as will allow the hand to move easily through the mass, and then squeeze down the turnips, with three pounds of pea-meal. This is given to the cow in the morning and evening, with as much sweet hay as she will eat up clean five times a day. The butter made from cows fed in this manner is as rich and of as fine flavor as can be produced in winter by any other means. Should the peculiar flavor of the turnip be detected, however, which is not unlikely, a pinch or two of salt-petre, as before observed, may be put into the cream to take it away.

Great precaution must be taken in giving turnips to milch-cows, that the bulbs should be perfectly sound and all decayed leaves removed, as they are sure to impart an unpleasant flavor to the milk. The same precaution also is necessary in regard to hay, which should be perfectly sound, and made from a meadow perfectly free from weeds.

NEW YORK STATE AGRICULTURAL SOCIETY.

At the meeting of the Executive Committee at Albany, on the 11th of November, returns were made from the Agricultural Societies of Seneca, Cortland, Columbia, Livingston, Cayuga, Oneida, Greene, Orange, and Queen's Counties. In the latter Society's Show we notice the following commendable regulation of the butter premiums.

In this county separate premiums are awarded to *girls under twenty-one years of age* for butter, and the competition was very spirited, there being a large number of competitors. It is hoped that other societies will adopt this practice, encouraging the farmers' daughters to become perfect in this most important branch of agricultural industry. Speaking of the exhibitors in this department, it is said, "Although all could not obtain premiums, all gained credit by their labors and gave evidence of ability, that many wives and mothers might be proud of, and that husbands often wish for."

Officers of County Societies are particularly desired to forward to the Agricultural Rooms an account of their Fairs, as requested by Circular of 11th March.

T. M. Burt, of Kinderhook, presented fine specimens of Swaar and Vandervere apples. The Swaars remarkably large and fine. Gentlemen having choice fruit are desired to exhibit specimens, especially seedlings which are of esteemed varieties.

The Secretary exhibited specimens of a remarkably choice variety of seedling apples, from Jas. M. Ellis's farm, Onondaga Hill. They were delivered to Professor Emmons, and will be drawn and engraved for his work on the Agriculture of the State.

The Secretary reported, that, in pursuance of a resolution of the Board in relation to international exchanges, he had furnished Alexander Vattermare, Esq., the founder of the system of exchanges, sets of Transactions of the Society and other agricultural Works for the Royal Agricultural Society of France, the Minister of Commerce, Chamber of Deputies, Library of the City of Paris, Academy of Science, and Royal Botanic Garden, and a variety of seeds for distribution by the Royal Agricultural

Society and Royal Institute. Assurances were received from Mr. Vattermare, that returns would be made of works suited to the library of the Society, and that an interchange of seeds and implements would be continued.

The Minister of Commerce instructed Mr. Vattermare, that "he would very willingly have a public exhibition made of implements and the results of American industry in Paris."

Inventors and manufacturers, who are desirous of extending a knowledge of their inventions, on furnishing models of their articles to the Secretary, will have them forwarded for exhibition in France.

Saluthiel Ellis, of 247 Broadway, New York, presented to the Society his splendid bust of the late *Silas Wright*. The thanks of the Society were tendered to Mr. Ellis for his valuable donation and the Secretary was directed to have the same placed in the rooms of the Society.

A letter was received from Mrs. Clarissa Wright, widow of the late Gov. Wright, informing the Society, in answer to their request to have the original draft of the Address written by her husband placed in the archives of the Society, that "Her profound respect for the Society, and for the reasons expressed for making this request, induces her to put aside the desire to retain this memorial in her own possession, and to give her assent to the request of the Society."

On motion of Mr. Stevens, the following preamble and resolution was adopted:—

Whereas many persons in different parts of the State have received as premiums or otherwise, duplicated copies of the early volumes of the Society:

Resolved, That the Secretary be authorized and directed to exchange late volumes of the Transactions for such duplicated copies, whenever desired by the persons having them.

On motion of Mr. Johnson, *Resolved*, That Prof. J. P. Norton, of Yale College, be invited to deliver an address before the Society, at their annual meeting, on the 3d Wednesday (19th) of January next.

Competitors for premiums at the winter meeting, are desired to forward their statements to the Secretary without delay. Directions for preparing statements will be found in the premium list, from pages 10 to 14. It is hoped each competitor will see the importance of having his papers properly prepared and forwarded in season.

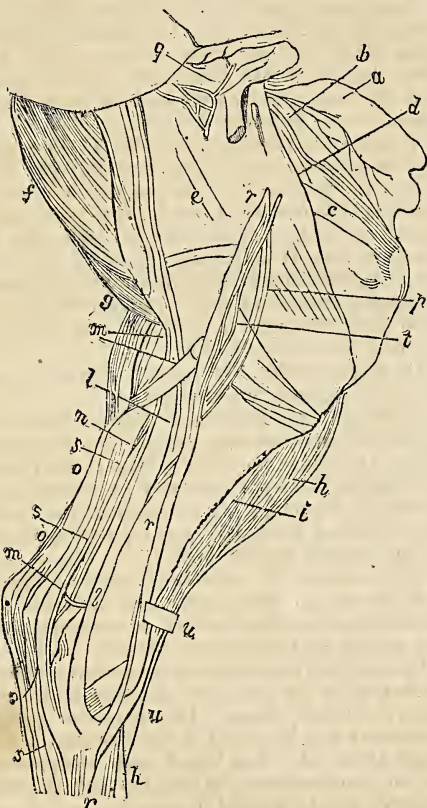
The next Annual Meeting of the Society will be held at Albany on the third Wednesday of January, 19th.

B. P. JOHNSON, Secretary.

THE HORSE.—No. 7.

Muscles of the Inside of the Thigh.—The muscles of the hind-quarters are more powerful than those of any other part of the frame; therefore provision is made to keep them in their respective places, and thus contribute to their security and strength. When the skin is stripped from any part, we find the muscles are thickly covered by a dense, strong, tendinous coat, whose office is to confine them to their places. This membrane, called by anatomists the *fascia*, is of extraordinary strength in the hind-quarter, and reaches over the whole of the haunch and thigh, and ceases to be found only at the hock, where the muscles themselves cease.

The muscles are strong enough to dislocate and even fracture the bones, when acting in their proper direction; they would be more powerful to do so, if acting out of their proper direction, and therefore require the support and confinement of this tendinous coat. When this coat is dissected off, another is found (which is represented at *a*, in the cut, and turned back) larger than the *fascia*, thicker, and more muscular. It proceeds from the haunch-bones to the stifle upon the fore and outer part of the haunch and thigh, and is intended to assist and strengthen the *fascia*.



MUSCLES OF THE INSIDE OF THE THIGH.—FIG. 90.

Under the part of this binding muscle, shown in the cut at *a*, lies the *straight* muscle, so called from its direct course. It is a large round one, proceeding from the ilium, not far from the socket, into which is inserted the upper bone of the thigh, and runs *straight* down that bone, and hence its name. This muscle is inserted into the bone of the stifle; and it is so situated as to be enabled to exert its great power in the most advantageous way. It is a very prominent muscle, and possesses great strength. It unites with the tendons of the muscle seen at *c* and *b* in the cut, and with the tendons of those seen at *g* and *i*, in the cut, page 240, August No. After this union it terminates in a short and very strong tendon.

A. c. is seen the *vast* muscle, so called from its great size and strength. This muscle is double, being on both the outside and inside of the thigh,

and arises from the outer and inner surface of the bone of the thigh. It is inserted into the upper part of the bone of the stifle, and on both sides of it. This muscle acts at a mechanical disadvantage, as it forms a very slight angle (far from a right angle, which is the direction of greatest power) and of course must be very large to be efficient. It is accordingly a muscle of immense size, and occupies all the forepart of the thigh, from the stifle upwards. It is inserted into the stifle-bone, which is connected by strong tendons with the bone of the leg. From position it is a powerful extending muscle of the thigh and whole leg.

At *d*, is a long, narrow, prominent muscle, arising partly from the bones of the back at the loin, and extending down the thigh. It assists to bind the leg; it turns it inward and gives it a rotary motion; it is besides of service in many of the motions of the hind-leg.

At *e*, is a broad, thin muscle, occupying the greater portion of the surface of the inner part of the thigh and particularly the prominent part of it. It arises from the lower part of the haunch-bone; it proceeds downward and unites with the muscle *d*; and when united, both are inserted into the inner and upper part of the lower bone of the thigh and continued over the stifle. Its power is very great, although it acts at a great mechanical disadvantage. Its office is to bend and rotate or turn the leg inward.

On the inside of the thigh at *f* and *g*, and forming the rear or hind edge of the thigh, lies another important muscle; it is mostly on the inside of the thigh, and makes much of the bulk of the hind part of the thigh. Its office is to bend the thigh upward and forward upon the bones of the haunch, and to lift and bend the leg. It is an extending muscle. As it has to raise and bend forward the whole limb it must be a very powerful muscle. It therefore acts with very great mechanical advantage, viz. at a right angle, or nearly so; and is one of the most effectual of the extending muscles.

At *h*, is a muscle whose office is to lift and bend forward the foot. It is called the extending muscle of the foot. At *n*, it becomes a tendon.

At *i*, is a muscle called the *bender* of the leg. Its office is to bend the hock and turn it somewhat inwards. It arises from the thigh-bone, and is inserted by a tendon into the large and small bones of the hock. It is a muscle of considerable power, although disadvantageously situated, both as to its direction and its insertion into the bones of the hock, so near the joint of the hock.

At *l*, is another extending muscle. It is attached to the whole of the splent-bone of the lower thigh; it becomes a tendon, extends in the shape of a tendon over the hock, to which it is attached, downward to the foot, into the coffin-bone of which it is inserted. Its office is to co-operate with the extensor of the foot in raising it from the ground, and bringing it forward under the body. It is the same as the muscle at *m* in the cut page 240 Aug. No.

At *m*, is seen a portion of a very powerful muscle, arising from the head of the upper bone of the thigh and ending in a flat tendon about midway down the lower bone of the thigh and continuing to the hock, into the point of which it is inserted. It extends the hock; it is most advantageously

placed for powerful action, for its direction is almost at right angles. Its effect is increased in proportion to the projection of the point of the hock.

At *n*, is the inside part of the perforating flexor or bending muscle of the foot, described and figured in the cut at letter *o*, pages 240 and 241 Aug. No.

At *o*, is the bending perforated muscle. It has its origin near the lower head of the upper bone of the thigh; becomes tendinous as it passes down the thigh, covering the point of the hock; it assists to extend the hock. From the hock it passes down the hind part of the leg to the pastern or fetlock-joint and the foot. It bends the leg backwards, and lifts the foot upwards and backwards.

At *p*, *q*, and *r*, lie the principal arteries and veins.

At *t* and *s*, are the principal nerves.

At *u*, are the important ligamentous bands which confine the tendons to their places at the bending of the hock.

THE HOCK—This is a most important joint. It consists of six bones, and is very complicated. It answers to the ancle in man. It consists of 1, the *astragalus* (so called by anatomists); the bone of the lower thigh rests on this. 2. The bone of the heel; into this the tendons of many muscles are inserted; it makes the point of the hock. These two rest on two others. 3. The cube-formed bone behind. 4. The large wedge-shaped bone in front. This bone rests on 5 and 6, the two small wedge-shaped bones. These two last and the cube-shaped bone rest on the shank-bone and the splint-bone of the leg.

These bones are all connected together by very strong ligaments, which prevent dislocation, but allow slight motion between them and the surfaces which touch each other and are thickly covered by an elastic cartilage. The weight and stress thrown on the hock is great. The thigh-bone comes on to the *astragalus* in a slanting direction, and the joint between is hinge-like in action, without any side motion; these two bones are confined by strong ligaments. The hock in fact consists of six joints. The six bones are each covered with an elastic cartilage and a membrane producing joint-oil, and have each a slight motion. The joint-oil smoothes the surfaces of the bones where they act on each other, and the bones are all bound together by many ligaments. The weight descending slantingly, concussion is mainly avoided, and the bones diffuse what there may be. The joint has sufficient motion, and is yet so strong as to be secure from dislocation. It is very liable, however, to strains.

We here end the bony and muscular anatomy of the horse; we shall next proceed to his history, and then take up the subject of animal mechanics, in its application to the anatomy, a most important branch of the knowledge of the horse.

REFLECTIONS FOR THE FARMER.

THERE never was a class of people more blessed or more prosperous than the farmers of the United States now are. Their crops are abundant and readily command cash at good prices; while every necessary of life which they wish to purchase, especially manufactured articles, was never so good and so cheap. Then the facilities of transportation and locomotion have been greatly increased and improved, and this is another source of positive bene-

fit to the farmers. With these physical benefits, those of an intellectual and moral kind have kept rapid pace. Books have been cheapened and multiplied incalculably. Schools, especially those of a higher order, have increased—and churches and faithful ministers abound. Do you think of these things as you ought? and are you striving to take advantage of them to improve your moral, intellectual, and physical condition to a greater extent? Those who act wisely will make the most of these great blessings every hour; for they cannot always expect them to be so abundant, and besides, to *improve them now* is the *surest way to continue them*.

One certain means of effecting improvement among the farmers is what we have heretofore often recommended—the formation of clubs in each neighborhood for weekly evening meetings in the winter. It is not necessary in these to confine yourselves entirely to agricultural discussions, but such things as have a collateral bearing on agriculture may occasionally be profitably introduced; such as the geology, the botany, and the arboriculture of the country; nor should we consider the moral means of improvement of the heart and mind entirely out of place in these evening discussions. But our homily must end.

We have finished another year of our periodical being. Let us be thankful to the Great Author of all things for its many benefits, and look forward with renewed hopes and exertions for a continuation of his favors.

FAIR OF LITCHFIELD CO. AG. SOCIETY.

THE Annual Cattle-Show and Fair of the Litchfield County Agricultural Society was held on Litchfield Hill, Ct., on the 29th and 30th of September last, where an immense concourse assembled to celebrate their yearly "harvest-home." The ladies turned out with a profusion of smiles, and a display of divers samples of their handiwork. The specimens of horticultural and vegetable productions also, nearly equalled those of previous years.

A correspondent in speaking of this Show, says:—"Our county now stands higher for its breeds and qualities of Stock, than any other section of the Union. Lemuel Hurlburt, Esq., of Winchester, Messrs. Judd and Blakeslee, of Watertown, and one or two other gentlemen, have done more perhaps than all others to raise the credit of the county to its present position in this respect. Mr. Hurlburt had upon the ground for exhibition, 10 head of pure Devon cattle, and a more splendid lot I never saw. Mr. Blakeslee introduced 300 Spanish Merino sheep—nearly his whole flock, and a more superior lot was never exhibited. The Blakeslee sheep have taken premiums at the New York State Fair for four years.

Mr. Blakeslee also introduced the largest herd of fine Devon cattle ever before offered for exhibition at any similar Fair in Connecticut; among which were 13 pair of fine matched steers and oxen. Also, one pair of splendid working oxen, which took a \$14 premium at the American Institute last year.

The stock exhibited by Mr. Chandler Judd, of Watertown, was worthy of special note, and elicited general praise; but our view of them was too hasty to enable us to particularize."

LETTERS FROM VIRGINIA.—No. 2.

IN my last letter I had occasion to advert to the fact that during a few years past, an extensive emigration has been in progress from the Northern and Eastern States to different portions of Virginia, and particularly to the lower or tide-water sections of this ancient Commonwealth. From inquiries which I have instituted in reference to this point since my arrival here, I have ascertained that within the past six or seven years, nearly a quarter of a million of dollars has been invested in the purchase of lands in the single county of Fairfax, one of the smallest counties of the State, situated on its north-eastern boundary, immediately adjacent to the District of Columbia, chiefly by New York and New England men; and that from two to three hundred heads of families have, within that period, become citizens of this portion of the State. This tide of emigration and settlement is still in full flood—and scarcely a month elapses without bringing its quota of enterprising farmers, mechanics and tradesmen, from the "Northern hive" to this attractive region. Most of these people may be regarded as permanent inhabitants; a few, however, "put their hands to the plow, and look back" after a year or two of ineffectual endeavors to surmount the difficulties and discouragements of a new and untried region. Over exertion in agricultural labors during the long summer days—the occasional failure of an important crop or inability to realize from its proceeds a sufficient sum to meet the necessary expenditures of the year—a lonely and secluded residence "far from the busy haunts of men"—home-sickness and misfortunes of various kinds, resulting chiefly from an unwise investment of their funds in the purchase of "cheap lands" unfavorably situated, and requiring too great an outlay of capital and labor to render productive and remunerating—these and similar drawbacks serve now and then to discourage and depress the emigrant, and he abandons his undertaking in despair, and returns to "the flesh-pots of Egypt." But the far greater number become identified and incorporated with the community among which they have cast their fortunes—reclaim speedily the worn-out soils—introduce new and valuable improvements—cause the wilderness literally to "bud and blossom"—erect churches, school-houses, and barns—and availing themselves skilfully of the numerous advantages which the mildness of the climate, the natural fertility of the soil, and the proximity of excellent markets afford, soon attain to affluent circumstances and permanent prosperity in their new homes.

The county of Fairfax, embracing the city of Alexandria and Mount Vernon, is separated from the District of Columbia, on the north-east by the Potomac, which, having its source in the great valley of Virginia, lying between the Blue Ridge and the Alleghanies, cuts its way through the former, and empties itself into the Chesapeake Bay at a point about equidistant from the northern and southern boundary of the State. The Potomac is navigable for sloops and vessels of the highest burden, as far as Georgetown, the western extremity of the district, one mile west of Washington, and some ten miles north of Alexandria. Crossing the river by a spacious covered bridge, four miles north-westerly from Georgetown, you enter at once

upon the territory of Virginia. The soil throughout this region consists of an upper stratum of sandy loam resting on a rich and fertile subsoil of red clay, overlying to a considerable depth rocks of gneiss and granite. These underlying rocks frequently make their appearance at the surface, and furnish abundant and valuable materials for buildings, fences, &c. To a great extent, however, they have become disintegrated by the long continued action of the elements, and are rapidly decomposing and mingling with the surface soil. Wherever this soil has been subjected for any considerable period to a judicious cultivation, and properly supplied from time to time, with fertilizing manures, its products, as I observed in my first letter, have been found to equal those of the richest portions of the river counties of your State, and even in many instances of Western New York and Long Island. A very large proportion of these lands has, however, long suffered and become seriously deteriorated, either from exhaustion, by incessant croppings without rotation, or insufficient manuring, or from utter neglect, from the impossibility of taking into cultivation the whole or indeed any considerable portion of the large estates, often comprising from five to ten thousand acres, of the wealthy proprietors. In the former case, a judicious application of labor and capital is all that is requisite to the complete restoration of the soil to its natural fertility, and this process is easily effected within at most two or three years, and at a cost not exceeding five dollars an acre; and, in the latter, lands which have become covered with pines and other forest trees, and the cultivation of which has for years been wholly abandoned, may be reclaimed and converted into arable, meadow, or pasture-land, as may be required, at an expense not exceeding ten or fifteen dollars per acre.

The crops which have been found to succeed best in this neighborhood, are wheat, rye, oats, Indian corn, and potatoes. The average yield of wheat may be set down at twelve bushels per acre, and that of corn at thirty-five. Where lime, plaster, and ashes have been liberally bestowed, and the requisite attention paid to the cultivation in all its stages, these crops will be proportionably augmented in amount, and twenty bushels of wheat, and from seventy-five to one hundred of corn per acre, may safely be relied upon, from lands of average productiveness. On the river-bottoms from two to three tons of hay and clover are annually realized.

The immediate proximity, by means of good roads, to one of the best and most constant markets in the Union—that of Washington—the salubrity and mildness of the climate—winter being practically almost unknown, and the numerous facilities afforded by an equable and steady temperature for the raising and fattening of stock of every description—these circumstances, together with the fertility of the soil, and the low prices at which farms can be obtained, present substantial inducements for emigration to those who, from any reason, are inclined to change their domicile. That this portion of the Union is eminently conducive to health—that its balmy breezes and invigorating temperature are especially favorable to those constitutions which have any tendency to pulmonary complaints, the experience of many who have sought and found in this

vicinity, a renovated system, and a complete restoration of physical strength and vigor, affords abundant testimony.

I would, by no means, advise the Northern farmer who is already comfortably settled, and in prosperous circumstances, to "pull up stakes" for the purpose of trying to better his condition, here or elsewhere. I feel no hesitation in recommending all whose health or circumstances require a change of climate, or of place—all who have contracted the prevailing fever for Western emigration—and all who are in search of an advantageous investment of their surplus means, to spend a few weeks in this delightful region; and if, upon a careful and deliberate survey of its advantages and disadvantages, they should be of opinion, as I am, that they "might go further and fare worse," I can venture to assure them a cordial welcome to the Old Dominion.

A NEW YORKER.

MEDLEY HOGS.

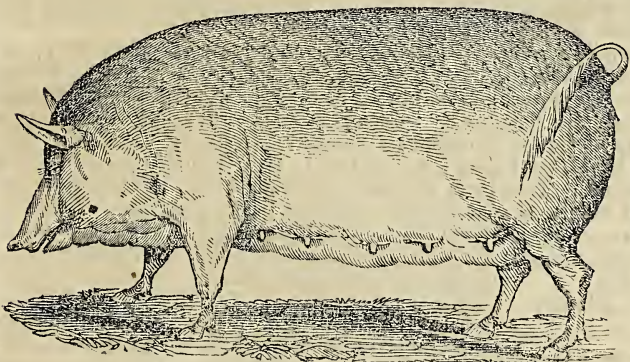


FIG. 91.

THE above cut is a portrait of one of my breeding sows of the Medley breed. It was sketched by Mr. Van Zandt, while running in pasture, and selected by him as a fair specimen of the breed. She was one year old at the time he made the sketch.

In forming this breed of pigs, two distinct or different systems have been chiefly pursued. The first by means of crossing the various breeds so as to supply the faults or defects of the one by the merits or perfections of the other; the latter, or that which has been by uniting the perfections of the same kind, by selecting and continuing to breed from the best and most perfect animals in the same family line, or blood. By crossing with judgment, improvement may be effected, especially in what relates to bone, size, hide, or coat, the bettering of particular points or parts, and constitution.

It would appear, therefore, that by crossing and the careful selection of the most perfect animals of the same breed or kind, with due attention to constant good feeding, the improvement of live stock may be carried to great perfection.

It is folly to attempt to raise superior animals of any breed without the aid of good and sufficient keep at all seasons, with suitable shelter and warmth, both for young and old stock, so that they may never decline in flesh or be checked in their growth.

A difference of opinion may always be expected to exist, as to form and color that constitute beauty in animals; but it cannot be denied, that the

grand object should be a profitable produce. Every farmer should be desirous of *keeping up* the good qualities, if not improving his animals, and let this be determined as it may, *perfection* can only be obtained by a selection of breeders. If a greater or less size is required, stronger propensities, or greater and more perfect health and vigor, the object must be attained by selecting and pairing the males and females which possess in the greatest degree the requisite qualities, whether crossing be resorted to or breeding in-and-in.

After a perfect stock has been attained, how is it to be continued? This seems to be the grand question, and it only can be answered by duly attending to their qualities and habits, when selecting breeders, by which these qualities are to be sustained.

The long agitated question, whether large or small sized animals are the most profitable or pay the most money for the food they consume, is not yet fully decided; nor is it probably capable of being easily ascertained, on account of the difficulty of making experiments. From my own observation and experience, I am inclined to give the preference to the smaller or medium sized, as most profitable, especially near villages and cities.

The basis on which I commenced the improvement and formed the "Medley breed," was the little improved Chinese hog, a short-bodied, small, compact, chubby animal, of a spotted black and white color—too small for the barrel, but an excellent pig for fresh pork. Their general weight at one year old was about 200 or 250 lbs.

The first cross I made was with the "grass breed," so called; a hog of similar character, but of a larger size.

The second cross was with a "Leicester" boar, which increased their length and size of bone. I now bred from my own boars, selecting those that appeared to possess or approach the nearest to certain points which I had in view, viz.—small, short heads with a hollow or dishing face—small, upright ears—deep, capacious, long bodies—a small short leg, and above all, of a thin skin and a white color.

After breeding in-and-in, a few years, in order to get more length and wash out the dark spots that would occasionally appear, I crossed them again with a son of a boar imported by Mr. McIntosh, crockery merchant, of this city, called the "Derbyshire breed," a hog of immense length of body and great size, and bone sufficient to sustain his weight (650 lbs.) By this cross, I lost in a measure the rotundity of the ham, and increased the length of the nose, but with a dip of the "Neapolitan" blood, which are famous for a large, round ham in proportion to their size, I have, as you will perceive by the portrait, regained that point, but the nose or face is still too long. In order to obviate or improve the face of the "Medley," I sent to the East for a "Mackay" boar, but on finding so many other objectionable points, I did not use him, although a thrifty pig. Since then, I have bred from my own stock, until I may say it is thoroughly established as a breed, characteristic throughout. On looking at the different litters, now in my pens, they resemble each other so nearly that if they were all of the

same age one would suppose they were of the same litter.

The foregoing is a true history, and I think fully establishes the claim to "Medley," a breed mostly made by *crossing*.

This breed of hogs are not only valuable in themselves, but are valuable to cross with the larger, slow-growing sort. As now established rather under medium size, could probably be made to weigh at one year old, from 250 to 300 lbs. I have had them weigh, with ordinary keep, as store-hogs, from 184 to 186 lbs., at nine months old. They are tough, hardy, and prolific, having generally nine and ten pigs the first litter—good nurses and careful mothers. Color white, with an occasional dark spot on skin, and sometimes with dark hair spots; skin rather thin—hair soft and not very thick, which would indicate tenderness, but it is not so. Head medium size, nose or snout rather too long and straight to please the eye—ears small and standing up—neck rather thin, but deep in the shoulder—good length of body—back straight and generally even in width—broad across the hips—full and well let down in the flank—tail so small that it sometimes withers, dies, and a portion falls off. In form and general characteristics this breed, with the exception of the nose, approach the Suffolk breed imported by Mr. Stickney, of Boston. Their flesh is firm, juicy, and tender—hams meaty, round and large in proportion to the carcass. They are docile and quiet, good grazers, and can be fattened at any age from the teat up. They are much sought for by our butchers, for fresh pork, and will command the highest price in our market.

C. N. BEMENT.

Albany, Oct., 1847.

SIX SAMPLES OF BACK-JERSEY FARMERS.

Sample No. 1.—This man is located on an old cultivated farm, where rich people lived and died before him, but whether they became so by farming is rather doubtful. He is a specimen of mechanic turned farmer—has had extensive opportunities of observation—is a man of tolerable natural parts—lives in one of the best residences of the neighborhood, with every convenience around him, and sometimes raises good crops on a not very favorable soil. Yet, scarcely any one thinks this man makes a living from his farm. An annuity gets the credit of his success. His frequent drafts upon the extra manure and ashes of the neighboring village, show that he is disposed to listen to the admonitions of his agricultural papers. No doubt he has a great satisfaction in his farming operations, over that man who never sees in the results attained, the fruits of his own thought and study—but only the same routine through which his fathers passed before him. One would think, that with such a home, in such a place, farming must be attractive, if anywhere, and afford ample room for exercising all the energies, both mental and physical. But this farmer says he cannot make his farm support him; but why, does not appear. Most young people would be willing farmers, such as he, provided the annuity were also pouring in its steady stream to make all snug and square at the end of the year. But all have not that to make farming tolerable. Let us look at one who has not.

Sample No. 2.—Here too we have a "book-farmer," made out of a merchant, of dashing ways in early life, left in possession of a few thousands collected by a "keen" father, cut off by death in the midst of his rapid accumulations. The son seemed ambitious of uniting the father's character of a man of business to that of a man of fashion. The time and means required for the latter, soon swallowed up the former. Matters were then in such a train, that the merchant became the gentleman farmer. It had also become necessary that some personal labor and attention should be given, to keep affairs in motion. Ignorant of his new business, he turned to the agricultural periodicals just then beginning to figure prominently among American publications. He stood out as the prominent book farmer of his region, and the results of his operations were pointed to as conclusive evidence of the uselessness of book knowledge on this subject. He could not make things go—so his land was let out to others for cultivation, and his own attentions given to horse-dealing and other like "genteel" occupations.

Sample No. 3.—This farmer is one who knows what toil, care, and labor are, and is on a farm which needed them in no small quantity. Situated on a "bottom," covered with round, or river stone, in immense numbers, and nearly useless for fencing—for no two of them would scarcely lie in a heap together. Enormous rows of these bear witness to his industry in by-gone days. With no great share of book-learning nor any extra respect for either the demands of religion or morality, joined to the most determined resolution to acquire wealth, this man has succeeded. Yes, he has got rich, but at what a fearful sacrifice. A young family of uncultivated minds or manners exhibit his whole-souled devotion at the shrine of Mammon. If success in farming requires such as this, may the young man say, then be it far from me. Young and inexperienced minds reason from such cases, that it is the tendency of the business to produce such characters. And it is true that too many such coarse specimens of human nature are to be found among farmers. But we pass on to another.

Sample No. 4.—Here now we have a farmer who might attract some to his business by his exhibition of so much apparent leisure, although they might wish to apply it to nobler uses. He is what has been termed the "laziest man in creation,"—but the world do not always bestow their epithets impartially, so we will make considerable allowance. This sample of our farmer does not seem to think that agriculture affords full scope, for the exercise of all his powers. He is a politician. His country claims not only "a single eye," but both of them, a great deal of the time, in his estimation. He appears to think farmers are just the proper material for legislators, and is said to have threatened party leaders with a secession and exposure, if they failed to recognise this important truth much longer, in his case. This brought matters to a crisis, and he was sent to the State councils, for little else, that the public could see, than to expose his deficiencies, to his own shame and confusion. Of course, no very signal success attended his farming operations, and had it not been for some special advantages, serious delinquencies might have happened. It is reckoned

no one ever felt very strongly impelled towards an agricultural life by his example. He has not confidence in his own business. Why should others? To be a good farmer is not a height sufficient for his aspirations. Why should others grade theirs lower?

Sample No. 5.—This is one of a class, the very antipodes of the last, and altogether too much disposed to rest contented with his business, as far as it will permit him. He “vegetates” upon a farm, where some one started a course of tillage, and he keeps it going for better or worse, despite of all suggestions for improvement from any quarter. The “*vis inertiae*” has strong hold of this man. He seems to luxuriate in the very monotony of his life, and looks upon all who would disturb it as trouble-makers and tormentors. The doctrine of human progress would find but little favor with him, were he ever to hear of it. In how much does this farmer differ from the vegetable he tills, or the cattle upon which he tends? They eat and drink and sleep; and eat and drink and sleep again—and so does he. What a life, says the youth, as he surveys this repulsive specimen of tillers of the soil. Can it be that the business nourishes such a disposition of mind? I will have none of it. Give me something where there is room for the application of ever increasing stores of knowledge, and expanding intellect, for I would always be a learner.

Sample No. 6.—This is a farmer whose business seems entirely too much for him. He is ever after it, and to observers presents the appearance of one who had lost a day or two in the earliest part of his life, and never been able to regain it. While reaping one crop, the seed of another is waiting for the soil—and the soil for its preparation. Rules and system, he has none. Everything makes its own rule. The successive portions of his business crowd in one after another, pushing themselves into notice, and demanding attention. The men can hardly fail sometimes to wonder what has got into matters, thus to insist on all being done at once. It does not seem so with his next neighbor. Winter is a very convenient season in his estimation, in order to enable him to overtake the rest of his brother farmers, and start anew with them every spring.

But these few samples will answer for this time, and in them we have some of the stones of that foundation upon which rests the common opinion, that agriculture is just the business for all the lower grades of intellect. The agricultural periodicals are the only sources which many have from which to make up a juster opinion. Their own neighborhoods will not prevent them. A. R. D.

HOW TO MAKE RUSKS.—Take 7 eggs well beaten; new milk $\frac{1}{2}$ pint; melted butter $\frac{1}{4}$ lb.; yeast $\frac{1}{4}$ pint; sugar 3 oz.; and beat the whole well together, with as much flour gradually added as will make a very light paste. Let it rise before the fire for half an hour; then add a little more flour; form the mass into small flattened loaves or cakes five or six inches wide; and bake moderately. When cold, cut them into slices the size of rusks, and put them into the oven again to brown a little. This makes a nice tea-cake when hot; and when seasoned with caraway-seed, it is good to eat cold.

DECOMPOSITION OF MANURES IN THE SOIL.

My attention has been called to this subject by the report in your September number of a meeting of the New York Farmers' Club at Greenport. In that report are some statements quite opposed to what has hitherto been considered true, of the decomposition of manures in the soil. If every *particle* of manure, as there stated, has an *upward tendency*, the practice of the best farmers in this and other countries has been entirely wrong. With all due deference to the gentlemen whose remarks are there reported, I must express the opinion that such an unqualified assertion is not advisable upon this point.

In the first place, the fact seems to have been overlooked that all manures contain inorganic substances, which are neither volatilized by heat, nor readily soluble in water; those which on some soils produce the greatest effect, are almost entirely inorganic. With regard to the organic part of manures, there can be no doubt that in certain cases a portion of the gases evolved during decomposition may escape. This would be peculiarly large during a dry season when the evaporation is great and at the same time the progress of decomposition rapid. Ordinarily, however, decomposition, in a substance covered by a sufficient layer of earth to exclude the air almost entirely, goes on with exceeding slowness. This is not the case with large masses of animal or vegetable matter, but applies in the case of manures, which are usually disseminated either in small fragments or powder through the whole soil. The evolution of gases from the common manures is very gradual, so much so that in most seasons but little that is valuable would escape in any way, as all of the gases and soluble salts would enter into new combinations, or be taken up by the roots, either before reaching the surface, or before descending beyond the reach of the plant. The quantity lost by evaporation would vary with the season; in a long continued drought much would come up from below. In some parts of South America, during the dry season, a saline incrustation is formed over the surface of the earth, left by the evaporation of water, which contained the salt matter in solution. On light, sandy soils, the tendency during dry weather would be to evaporation, but during an ordinary season much more would sink with the water descending from the surface.

Little can be drawn from the fact that grave-yards are sometimes very rich. So far as my observation extends, this is only the case in those very old yards, where the ground has been many times spaded over, and where the whole soil is filled in consequence with decaying animal and vegetable matter. I have known instances of burial-grounds of several hundred years' standing, which showed no symptoms of special richness. At the depth to which graves are generally dug, decomposition is slow; and it is not likely that much of the gas evolved ever reaches the surface; it is more likely to be absorbed by water and descend to the nearest level.

Fish is a species of manure which becomes putrescent with great rapidity, and if only covered by a slight layer of earth it is certainly probable that much of its value would escape upward in dry

weather; it might therefore be advisable to cover it a little more effectually than common manure. In Scotland it is the practice to make a compost of fish, covering the heap thoroughly with earth. This compost is especially adapted to light sandy land, because the plant finds its nourishment immediately, without waiting for decomposition, which decomposition in such soils is always accompanied by a loss in one direction or the other.

I think that in this climate, where droughts are unfrequent, the general tendency of manures is to sink rather than rise, on all lands where the outlet of water is beneath the surface.

It is well known, that in many cases the surface-soil becomes exhausted, so as to bear very miserable crops, while the subsoil is rich. I have seen analyses of a soil and subsoil from a field where lime had been heavily applied for many years; the subsoil contained the greatest quantity of lime, showing indisputably that the lime had sunk. It is said that whole districts in Virginia, where the surface-soil was long since exhausted by continued tobacco-cropping, may be at once renovated by deep plowing. If every particle, or if a large portion of the fertilizing ingredients of the soil rose, these things could not be. Instances might be multiplied, but these are probably sufficient.

I have not the pleasure of a personal acquaintance with either of the gentlemen whose names are mentioned in your report, but trust that these remarks on a subject so interesting to the farmer may be received as they are meant, for an effort to arrive at truth.

JOHN P. NORTON.

Analytical Laboratory, Yale College, Oct., 1847.

LONG ISLAND FARMING.

IN my last I proposed noticing some other farms in this neighborhood. I shall not, however, tax your patience and that of your readers very largely this time. I intend to notice only the farm of Mr. Richard Sammis, on West Neck. Mr. Sammis has about 300 acres of land, and annually cultivates about 30 acres with corn, the same quantity of wheat and oats, the balance being kept in grass. His rotation of crops is the same as that practised on Lloyd's Neck. Mr. Sammis was the first farmer in this neighborhood that used lime to any extent. He has used it several years, and always with good effect, and this in the face of the common belief, that it did no good. I will give your readers the benefit of Mr. Sammis' experience in the use of lime. He says that he prefers to apply it in the fall, winter, or spring, as is most convenient, on land that is to be plowed for corn, at the rate of 100 bushels per acre. He thinks that it wants vegetable matter to act upon, as he tells me that he had a piece of three acres in a field from which he had taken off a crop of oats, and in which the weeds had grown up thick and strong. Previous to plowing the field, he spread on 100 bushels of lime per acre and plowed it under in the month of August. In September following, at the time of sowing his wheat, he plowed the balance of the field, treated it in every respect as he did the three acres adjoining, and at the time of harvest, the weedy land was much more abundant in its yield.

Mr. Sammis thinks that by an application of lime at the rate above named, once in four or five years,

with proper attention to making and preserving manure, the farmer here could get and keep his land in excellent condition for cropping without the heavy expense of the New York stable-manure that is now incurred, to keep it up. I think his opinion is worthy of consideration, for he is a most successful, energetic, and practical farmer. There are many other farms on West Neck that are worthy of notice, but the system of managing them is the same as that of Mr. Sammis, and the Lloyd's Neck farmers described in my former communication.

West Neck lies between Huntington and Cold Spring Harbors, and the soil similar to that of Lloyd's Neck, except that it is more rolling and hilly and contains more gravel. The amount of grain raised per acre, is but little if any short of that of Lloyd's Neck.

Our system of raising corn is somewhat different from that recommended and practised by the late Judge Buel. I like it much the best for our land, the difference being mostly in the manner of tilling the crop. Judge Buel discarded the plow and used the cultivator entirely, on his light land. That might answer for him, but we prefer the plow. At the first and second working, we commence by going twice in a row (our corn is generally planted four feet apart each way), turning the furrow from the hill, plowing deep enough to break up and tear to pieces the sod, and hoeing it without hills. In a few days we turn the earth towards the hills, always plowing both ways through the rows, and continue to plow as often as we have time. Some use the cultivator, the last time, to complete the work of pulverizing the sods and to make the land more level than the plow leaves it. I suppose the followers of Judge Buel will question the propriety of this system, and argue that the breaking of the sod disturbs the corn-roots; but that is not so. We commence as soon as we can see the corn-rows across the field, and by the time that the corn gets up enough for the roots to run within the reach of the plow we turn the furrow towards the hill. By this means, the sod becomes entirely pulverized and decomposed, and is ready to impart its full benefit to the roots. Hence I contend that where corn is planted on a stiff sod, and the soil contains any loam, unless the plow is used, no such benefit will be derived. I have seen fields that were planted with corn the year previous and the sod not disturbed. In the spring following, in plowing across the old furrows, they were so little decomposed that they retained their form almost entire, except the transverse cutting they received by the operation of plowing between the corn. I have also seen stiff sod plowed in April, that received one or two subsequent plowings for potatoes, and at the time of planting, in June, where scarcely a trace of the sod was left. These facts, with others that have come under my observation, convince me that where corn is planted on sod, and it is desired to give it the full benefit of that sod, it should have deep and repeated plowings; and if by the time that the corn-roots extend beyond the hills the sod will be sufficiently decomposed.

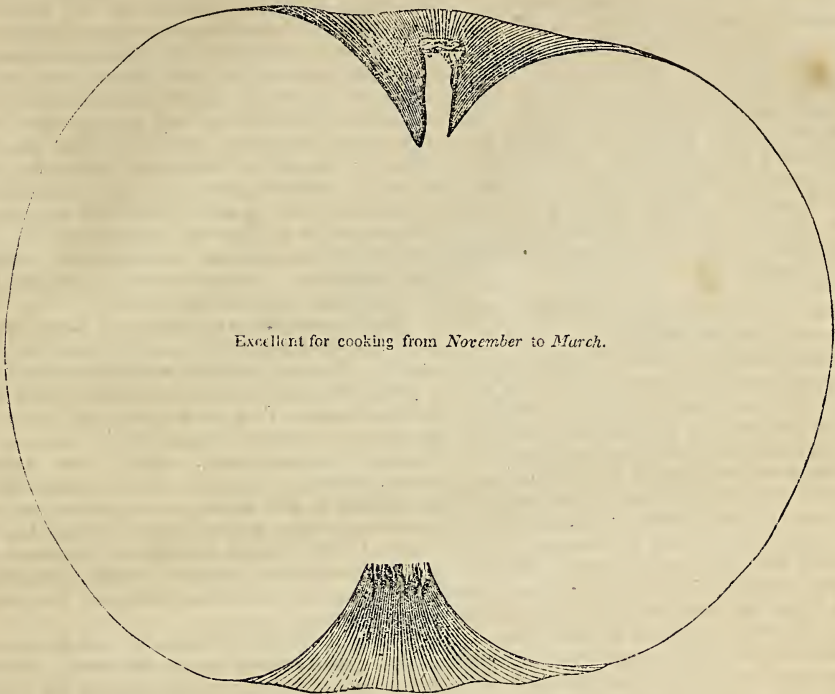
G. P. LEWIS.

Huntington, Sept. 15th, 1847.

He that will thrive must rise at five;
He that has thriven may sleep till seven.

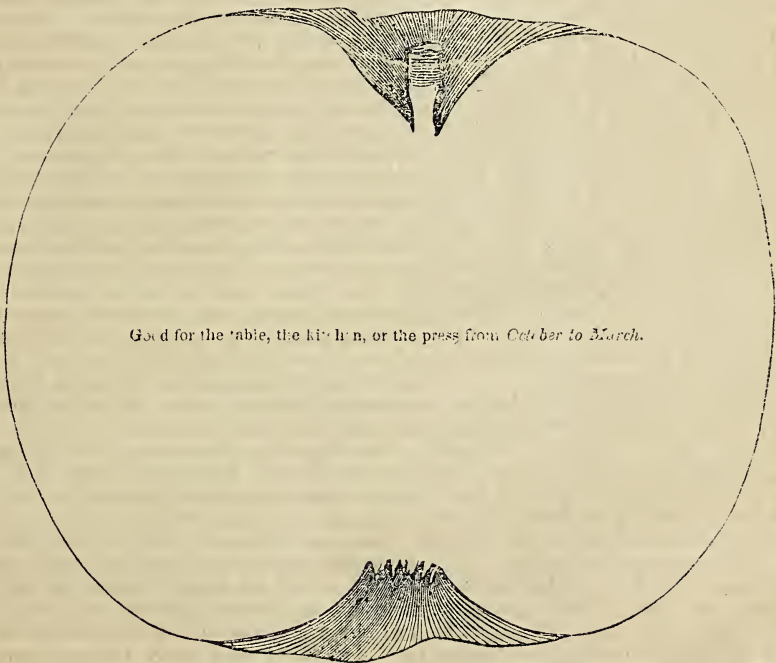
Old Saying.

CHOICE VARIETIES OF APPLES.



Excellent for cooking from *November to March*.

GLORIA MUNDI.—FIG. 92.



Good for the table, the kitchen, or the press from *October to March*.

WINE-APPLE.—FIG. 93.

GLORIA MUNDI.—This imposing apple, which is sometimes called "Monstrous Pippin," according to Coxe, originated on Long Island, N. Y.; but according to others it was originally brought from the State of Maine. Its large size renders it an object of popular regard, sometimes weighing twenty to thirty ounces. Its skin is yellow, marked with bright spots or dots; the outline round; stem

short; and the eye bushy. Its flesh is juicy and sprightly, and is admirable for cooking, though not profitable, from its liability to fall prematurely.

WINE-APPLE.—This fine apple, according to Landreth, is well known in the Philadelphia markets. It is unusually large and attractive from its beautifully fair and handsome appearance. The outline is round, rather flattened at the poles; and the prevailing color red, shaded and spotted with yellow. The stalk is quite short, never rising to the crown of the fruit, which is occasionally of a russet hue. The calyx is large and deeply-seated. It is equally adapted to the table, the kitchen, or the press. The habit of the tree is open, the growth handsome and large.

REVIEW OF JULY NUMBER OF THE AGRICULTURIST.

Transplanting Cabbages.—There is no more need of two b's in that word, than there is of two g's in wagon, or ough in plow, and if it is not according to Johnson and Webster, it is according to common sense. Let us take every lawful opportunity to reform the barbarous orthography of our language. [We pass our correspondent over to the editor of the Anglo-Saxon for reformation in this particular.] But, about the *cabbage*. Put no manure on the ground at all in the season of planting. Plow or dig the ground intended for planting in the previous autumn, and bury long manure deep and abundant. In the spring plow less deep and harrow fine, and after the plants are set, put a good coat of ashes between the rows—not too near, and you will have *cabbage* heads bigger than your own! *Too much* hoeing will spoil the growing plants—mind that. *Twice a day* though is not *too much*.

How to Make good Vinegar.—These directions are all very good as far as they go; but what is wanted is a plain recipe for those that have no cider to begin with. The German mode will not answer, because, "corn spirit" will be read to mean, common country whiskey, and of that, one to three of water will be nearer the mark. When the vinegar won't come, leach it slowly day after day through a common nail keg filled with clean shavings of some sweet wood, or clean straw, or small twigs. It is the exposure to the common atmosphere that causes the liquid to absorb oxygen enough to become acetic acid—which is a healthy condiment. Muriatic acid, which is so much sold as, and for vinegar, is not so. This is a small item in domestic economy, but a very important one. Don't forget it.

The Barberry-Bush not Injurious to Grain.—This article is not proof that this bush is always harmless. I have no doubt but those who believe in its blighting influences are partly correct; but that influence is very limited. There are many other bushes blighting Connecticut farms fully as bad as this blue-law proscribed bearer of a very healthy fruit. "Woodman, spare that tree."

Patent Self-Acting Cheese-Press.—My wife says she must have one—that those which we saw the other day in your store are so neat she would be almost willing to have one of them in the "square room." I have tried hard to persuade her that they are nothing but one of our own "Yankee notions," and will be constantly getting out of repair, but she says she knows better, and so I give up.

Mode of Draining Sink-Holes, &c.—These are not "sink-holes" as I understand them. In all cavernous limestone regions, as for instance in Kentucky, there are numerous deep depressions in the surface of extensive level tracts, where the earth has apparently and in fact settled away and run down into a cavity in the rocks below. These basin-like "sink-holes" vary in size from one to a hundred feet deep, and with sides sometimes too steep to climb. They continue to be "sink-holes" for surface water until the outlet becomes choked by a very common practice of making them receptacles for all the trash in their vicinity, when they fill up and make an unsightly and unhealthy pool of water. I notice the article because I like to call things by their right names.

The Domestic Flora of China.—I hope you will continue these interesting extracts from this capital work. They will be read with pleasure and profit.

The Garden Engine.—Cannot those very useful articles be made in a plain substantial manner at a less price? Some of us who live in the — Oh I forgot. We are incog. Well, some gardeners would like an engine, but cannot really afford to spend \$40 or \$50 for one. A lower priced article would suit better and sell faster. [They have been made at lower prices repeatedly, but have never given satisfaction. A good, strong, enduring machine cannot be made and sold for less than the above.]

Northern Plows for the South.—There is no part of the United States where so much plowing is done with positive poor plows, as in the cotton region. There are several reasons why Northern plows are not more used. One is, they are not known. Another is, that some of the worst articles of Yankee humbug that the cheating ingenuity of that universal 'cute nation could contrive, have been made "expressly for the Southern market," especially by manufacturers on the Upper Mississippi and Ohio Rivers—"good enough for niggers," until it is no wonder that the planters will not venture to purchase except it is from some one personally known to them, and who has reputation for giving an honest recommendation of the article offered them. Any man who could successfully introduce the good improved implements of the North, would confer a lasting benefit upon the Southern planters, and do deeds of humanity to the laborers and teams. It would be worthy the effort of any benevolent minded individual, to make a pilgrimage through all the Southern States to recommend Northern plows and other labor-saving implements.

The Strawberry Question.—I wish to put on record another fact, that there is a vast deal of humbug in these days about "new and valuable varieties of new seedling strawberries."

Trees and Shrubs for Towns.—One of the most important articles that could be written upon this subject would be, how to make one half of the trees that are set out in towns live; for it is a noted fact in my observation that they do not, and in fact will not, until men study common sense while transplanting them.

A Cheap Farm-House.—I have often commented upon these plans of buildings published in agricultural papers, and here repeat, that nothing with

which the pages of the American Agriculturist are filled, is of more important usefulness. Not that I like this plan altogether, but I like friend Solon's object in giving it. But of all contrivances for a frame, this one beats every Yankee notion I ever heard of. Is it possible that he is serious in recommending a two-story house to be built "*without a tenon or mortice in the whole frame.*" The idea is preposterous and requires an endorser. Can you, Mr. Editor, give any guarantee that our old friend is serious? "Balloon," indeed! And pray, do they often take the same course in a high wind? I would as soon think of living in a "cob-house." But that I know the author of this *cheap farm-house* to be possessed of a fund of good nature, I would not have treated his *balloon* with so much gas. I hope he will reply seriously and tell us upon his word if he would really recommend such a frame, or if he actually builds such himself. There must be an immense saving of labor, but I fear it is lost in durability. Let us *down east* barbarians have light from the West. [Mr. Robinson will please answer our captious Reviewer, and if he chooses in so doing to blow him higher than any balloon ever ascended, we shall not cry.]

Preservation of Peach-Trees from Borers.—Until some way under heaven can be discovered as a preventive besides the slow process of digging them out, they will continue to bore and be a bore to a great many peach-tree owners. It is too much like the fellow's "bed-bug powder." The trouble of catching the bugs and pinching them on the back of the neck to make them open their mouths to take the powder, is only equaled by catching the worms with a "long brad-awl." So if Mr. Ward's plan of expelling them by sulphur will prove effectual, it is a most invaluable recipe. Who else has or will try it?

A Bog-Cutter.—Perhaps it is because I was "born amongst the bogs" that I am so stupid that I cannot understand this explanation. The drawings may be altogether sufficient to explain to a mechanic its structure, provided that he has previously seen one of the machines. But I have yet to find one who can build me a cutter from this description.

Improved Candle-Wicks.—All editors are considerably in the habit of publishing a considerable quantity of just such recipes as this, in which it is recommended to steep a considerable quantity of candle-wicks in a considerable quantity of lime-water, in which a considerable quantity of saltpetre has been dissolved. Who can learn anything useful from such nonsense? Thousands will understand "lime-water" to mean the common well water of a limestone region of country. But the considerable quantity of saltpetre will be variously estimated. That must have been a considerable quantity which blew up seven stores in our good city of New York a few years since. No doubt a "more perfect combustible" was then "insured," too indefinite for practical purposes entirely.

To S. H. R.—Cranberries will not flourish so far south as Virginia, and it will be labor lost to try experiments. They are decidedly a Northern fruit. About latitude 40° is as far south as they are found in perfection. But the silk-worm loves

the sunny clime, and if you will only practise upon what you preach, may you be made happier thereby yourself, and be the means of teaching many others to be so by your example.

How to Make Good Tea.—If men can be induced to build rain-water cisterns by recommending rain-water for tea, then some good may arise from tea-drinking. I have no doubt that rain water is far more healthy, and when properly filtrated, is as pure as the running spring. Then why is it not more used? In numerous places, a supply of water could be had from the roofs of farm-buildings, at one-half the expense that it is obtained at from deep wells. I hope every tea-drinker in the country will become perfectly convinced that good tea can only be made from rain-water, and then cisterns will become fashionable. Let the Canton Tea Company have it printed upon all their labels, that good tea can only be made with purified rain-water, and they may do good enough to counterbalance a share of the evil chargeable to them for introducing so much "yarb tea" into the country. But give me pure water and I will give all my share of the green leaf to the "lovers of strong drink."

Boys' Department.—Let it be a lesson to boys and girls too, never to speak harshly, nor treat unkindly, even a dog; a good lesson, which conveys so much of my own feelings, that I will close my present article with it fresh in my mind as well as to all those who read the comments of the American Agriculturist by a REVIEWER.

TO TRANSPLANT LARGE TREES.

I HAVE these taken up with roots as large as possible and with as little injury as I can; with a sharp saw, or pruning-knife, according to the size of the roots, the bruised ends are nicely cut off, which enables them, when planted, to throw out numerous little rootlets from the ends, thus giving a quick and vigorous growth. The holes were dug 4 to 6 feet in diameter, and 1½ to 2 feet deep, a good layer of soft rich mould was then laid on the bottom for the roots to rest on, and filled in with the best soil to the top, and the earth carefully laid up somewhat rounding about the trunk. I have set thousands of trees in my life, and wherever I have pursued this method, with proper attention afterwards, I have rarely lost one. Let every one remember that a fruit or shade-tree, well set out and started to grow, is worth at least from one to five dollars the moment its life is secure; and all due pains in planting is the strictest economy in the end. L.

AMERICAN FOREST-TREES.

NOTICING the parks of England in the March number, Vol. 1, of the Agriculturist, you remark with much severity on the "spirit of ruthless destruction" existing among the new settlers of this country in destroying their noble forest-trees. I am aware of the general want of good taste in many of the American cultivators in selecting shade-trees, by the appearance of which their farms and estates would be ornamented and rendered more valuable, as is abundantly seen in the naked and cheerless aspect of too many otherwise beautiful homesteads all over the country. Let me however give a word of

apology in this matter, and set the American people right before you.

When clearing up the original forests, the trees stand tall and thick, and usually without branches to the height of 30, 40, or 50 feet. Seldom, if ever, are any found which, standing singly or in small groups, would be either graceful or ornamental objects in the landscape, or useful as shade, or for timber. When left thus alone, as has oftentimes been done by those whose taste would gladly retain them, denuded as they become of the shade of their fallen comrades, dried up in their roots by the scorching sun, and deprived of their usual and abundant moisture, they soon dwindle and die, and within a year or two stand a naked, unsightly monument of their former grandeur, or cut off from the natural support of other trees in the surrounding forest, they become the target of tempests, and with their tall tops acting as a tremendous lever-power upon their roots, are prostrated to the earth, upheaving with them large masses of soil which it is laborious to replace. Young and thrifty trees, too, share the same fate, owing to the sudden change their life is subjected to in removing the great body of the forest. It is true that occasional exceptions are found in an overgrown and enormous elm or oak, whose prodigious bulk and strength have long overshadowed its inferiors, and which, when left alone, will live on and flourish for ages in its original grandeur, and still increase in its beauty and size; but in heavy forested land this is seldom the case. These are the reasons why so few of the magnificent trees which so plentifully abound in the thick forests are found in the open fields of our farms, and particularly in the new settled portions of the country.

These remarks, however, will not apply to the large tracts of open "bottoms" that lie on rivers, the timbered islands of our prairies, or the beautiful oak and walnut openings of the West and South. There nature has been lavish of her bounties, and in the grandeur and majesty of her trees no country can excel it; and often has my admiration been excited in gazing at the colossal stature and graceful outline of those forest-monarchs, and my feelings gratified at the good taste of the proprietors who had left them thus "alone in their glory." In general the Americans are a tree-loving people, and no one can travel through the old settled portions of the United States, without remarking the prevalence of shade-trees and the singular beauty of the forests; much greater in their variety and vastly richer in their luxuriance than those of Europe, if the testimony of its own people can be received. What country on earth can exhibit more varied and luxuriant shade and ornamental trees than are found in the towns and villages of our Northern States, or occasionally on the extensive farms and plantations of the West and the South? England is a country which has been inhabited by a highly civilized race for two thousand years; America a little over a tenth part of that time. Her soils are owned and occupied by a highly refined and luxurious people, who lavish millions in the gratification of taste in natural as well as artificial objects; and in the transmission of their hereditary estates, they have cultivated and preserved with pious care,

those relics of past ages which they were early taught to venerate and esteem—while we, the *tillers* as well as *owners* of our soil, have *utility* first and *ornament* last in view.

I should perhaps have taken no exception to your remarks on this subject; but as I have often observed those of a like tenor both from foreigners and from native Americans, I have ventured to put the matter right before you. I ought perhaps to say, before closing, that until I was experienced in the subject, I thought with you; but the practice of some years has changed my opinion and convinced me that a densely forested country must be first *thoroughly* cleared, and that a second growth must succeed before it can be finely ornamented with shade trees. Occasionally, to be sure, a huge forest tree may be left which will retain its hold in the soil, and flourish perhaps for centuries; but such instances are rare. When I first commenced clearing, I left numerous trees of all sizes, both scattered and in groups; but many of them soon died by the heat of the sun, and from the want of their accustomed moisture; and of those that lived, after every heavy wind storm, numbers of them would blow up at the roots with a mass of unsightly earth attached to them, or wrung and twisted off midway in the trunk, remained a riven and splintered stump in the field. My plan is therefore to clear the ground thoroughly when the timber grows tall and close, and either cultivate shade-trees by transplanting, or suffer the vigorous young shoots to grow from the stumps of the smaller trees, as they often do, and select from them sufficient for all future purposes of shade and ornament. Selected in this way, with the large root and abundant sap of the former tree, they grow with great rapidity, and in a very few years give all the shade and convenience, as well as the beauty and utility that is required.

Nothing, however, can be more picturesque and beautiful than the scattered park-like native "openings" of our western lands or the delightful timbered islands of the prairies. More splendid and magnificent models of vegetable creation cannot be found in the world—and then, in proper localities and numbers, they cannot be too sacredly preserved from the axe and the fire. In the preservation of these, I rejoice to say, that many of our countrymen have exhibited great good taste, and at the same time have had an eye to permanent utility.

L. F. ALLEN.

Black Rock, Nov., 1847.

TEST FOR SOUND EGGS.—The larger end of a newly-laid egg feels cold when placed against the tongue. A newly-laid egg, also, appears semi-transparent when placed between the eye and a strong light, and has a small and perceptible division of the skin from the shell, which division is filled with air or gas. If an egg shakes, it is sure that it is stale.

WEIGHT OF EGGS.—The average weight of a newly-laid egg is about $3\frac{1}{2}$ oz.; the white generally weighs $1\frac{1}{2}$ oz.; the yolk $1\frac{1}{2}$ oz.; and the shell and skin $\frac{1}{2}$ oz.

Ladies' Department.

RURAL PASTIMES BY SOCIAL LABOR—No. 3.

In connexion with the "Working-Bee" at the minister's house, which, as a custom, is somewhat circumscribed in its limits, being confined almost exclusively to certain rural districts in our Eastern States, I shall attempt to describe another of similar object, called a "Donation Party," but differing slightly in its details, and being less local in its character. Although much more in fashion north of "Mason and Dixon's line," it is not unknown among our more Southern and Western neighbors, having been carried with the rapid tide of emigration from its source in the land of steady habits. One difference between the two is striking; for while the "Bee" is rarely known except in the country, the Donation Party is quite as frequent in the towns. In fact, these parties are known wherever the congregation is not rich enough to give their minister a regular salary sufficient to supply him and his family with the comforts of life. There is one feature common to both of these extremely interesting meetings, that is delightful to contemplate, and this is the liberal spirit spread abroad, which does not confine its influence to the members of the church whose minister is to be provided for, but in numerous instances warms the hearts of friends and neighbors of different religious creeds, who gladly join the charitable throng, and acknowledge it a privilege to be allowed to lend their aid in a good cause.

In preparing for these parties, there is generally a good deal of quiet consultation among the influential members, to prevent too much of one thing of a kind, and too little of another, from being provided, although there is always a clear understanding between the donors and the receiver, that what is superabundant may, without offence, be exchanged at "the store" for articles more necessary. At these preliminary councils it is agreed that one or more shall wait upon the minister to ask when he and his wife will be ready to receive them, and to fix the afternoon of that day for the party. I have never but once been present at these "love feasts," as they might well be called, but from that one I carried with me a heart full of agreeable reflections, and the wish that at my pleasant home such things were done.

Early on a bright afternoon in October, the lane leading to the minister's house was crowded with pedestrians, and vehicles of many forms and names. The good man, with the grateful feelings of his heart beaming in his face, stood at the door to assist the ladies to alight, and to receive his beloved guests, and those free-will offerings that were too large, or unfit to be carried into the house. He had been settled among them only a few months, but the bonds of Christian love are soon drawn closely between a faithful pastor and his flock; and they had well employed the time in spying out the wants of the household. None came empty-handed, and it was curious and amusing to see the almost endless variety of articles spread about the door, and around the wife, who, with her children, remained in the neat little sitting-room, and welcomed with smiles and tears of gratitude, the guests and their offer-

ings, which were deposited upon every unoccupied spot, until the room looked like a storehouse. Hitherto, Mr. — had walked his rounds of parochial visits, or had been indebted to some kind neighbor for the loan of a horse, or a drive in a wagon. It was therefore with peculiar pleasure that he received a stout nag, from two rich sisters, while a third who was prevented from attending in person, sent the kind message, that "she expected the horse to graze in *her* lot, as he had always done!"

Among other acceptable presents, I noticed a fine fresh cow "given, because the children must have milk;" a sheep, a hog, a barrel of flour, and a warm camlet cloak, to the latter of which the village tailor had contributed his mite by making. There were knitted woollen stockings of all sizes for the children; a neat wicker cradle for the baby; the winter's stock of wood; comforts for a sick room; and several books, valuable for their contents, and enhanced by good type and paper. Everything seemed to have been thought of; nothing omitted that would add to the comfort of these humble servants of their Heavenly Father. One thoughtful matron brought a pretty, though not costly lard-lamp; for she had seen the minister's wife, a few nights before, happy even amid poverty and discomfort, singing at her work, while she was mending her husband's black coat by the dim light of a tallow candle.

The young and the gay also brought their gifts, adding many pretty, useful articles of their own manufacture to the more solid contributions of their parents. While his face was bright with the grateful feelings naturally excited by receiving so many substantial proofs of the affectionate regard of his people to their pastor, I could not but observe a quiet, peculiar smile play for a moment about his mouth; as he noticed one article, so inappropriate for the humble room it was intended to adorn, and so frail in its texture, that all seemed to wonder how it could have been thought of at such a time. This was a beautiful, elaborately ornamented vase filled with wax flowers wonderfully true to nature, and tastefully arranged too, presented with a true boarding-school grace, by a pretty delicate girl, who had been brought up, I dare not say *educated*, in a "fashionable seminary for young ladies." These flowers were graciously received, and justly admired, but in that small room, crowded with children, where everything was in daily use, where could they be placed in safety? No marble table covered with elegant trifles was there; nor any space on the already well filled mantel. If she had not looked so self-satisfied, I could have pitied the pretty donor when the vase was deposited "just for the present" upon the coarse cloth that covered the tea-table. A few thoughts as to the fitness of things would soon have set her right, had she taken the trouble to think. The same time and money would have made half a dozen nice shirts, or if fancy work were preferred, and in this "work-a-day world" I love fancy work too well to proscribe it—she might by uniting the beautiful with the useful, have made a pair of embroidered slippers, or a cushion for the study chair.

No, I would not proscribe the ornamental under the most humble roof; but would rather strew

flowers in every poor man's path, to elevate his thoughts above the mere necessities of life; and so I suppose felt a great awkward, shame-faced boy, who, with cheeks crimsoned by health and modesty, made his way rather unceremoniously through the crowd, and presented, in a common red flower-pot, a fine, healthy young rose-bush, covered with buds and flowers just bursting into bloom, saying in a clear, joyous tone, "these, Mrs. * * *, is the *cutting* you gave me the first day you came to live here. Didn't it grow nice?" Need I say how different was the smile that greeted this gift of the heart, as it was passed from one to another for the tribute of praise, and then placed in the sunny window?

The remembrance of these donation visits long remains to cheer the heart of the good man whose life is spent in going about doing good in this humble sphere of a country clergyman, and if he cannot command the delights of highly intellectual society, he has at least the comforts of rational conversation, and social enjoyments, such as these, which like sunbeams play among the clouds of his life of trials.

E. S.

Eutawah.

TO COOK SEAKALE.

AFTER being well washed, tie it in small bundles for the convenience of taking up, and drop it into a saucepan of boiling water, in which a little salt, according to taste, has been dissolved. Keep it boiling. In about 25 minutes it will be done enough, which may be known by trying it with a fork. Sir Humphrey Davy tells us that the reason why vegetables and fish should be plunged into boiling salt and water, is, that this solution boils at a higher temperature than fresh water; and that the sudden scalding fixes the albumen, mucilage, and other nutritive parts of the viand, instead of their being macerated and sodden, and so partly lost in lukewarm water. The most economical mode of serving seakale is to lay it in a vegetable dish with a strainer at the bottom, and to send up in a small tureen any sauce that may be desired at the same time. The usual way is to lay it on sippets of toasted bread, and pour over it some white sauce, or melted butter made with milk instead of water.

MARRYING.—"If ever you marry," said an uncle, "let it be to a woman who has judgment enough to superintend the work of her house; taste enough to dress herself; pride enough to wash herself before breakfast; and sense enough to hold her tongue when she has nothing to say."

Boys' Department.

GOOD ADVICE TO BOYS.

WELL, boys, another year is drawing to a close, and it is important that you look back and see what has been done the season past and what you are to do before hard winter sets in. Have you kept any account of the crops you have raised, the animals you have reared, or of any of the experiments you have tried upon your fathers' farms? If you have read attentively all that has been printed for your benefit in the *Agriculturist*, and heeded it, you

have learned a good deal about work, and have had considerable amusement too. Have you raised a little patch of vegetables or a few fowls for your minister? He has been feeding your minds with religious and useful knowledge through the year, and it is no more than right that you should do something for him and his children in return. Have all your farming and gardening tools been carefully cleaned and stored away in readiness for spring? See that all rusty spots are properly scoured and oiled, and that the tools be put away secure from moisture or wet. How is it with those two-year-old heifers that came in last summer? Were their calves taken from them when a week old, and fed on skim-milk and Indian meal? Were they milked clean, and do you continue to milk them as long as they will give a gill at a time? This will make them hold out and be good milkers much longer than they otherwise would, when full-grown cows?

It is winter now, and I trust you are all at school *every day*. This is the time for study as well as for amusement or play. Instead of wasting your time on dead languages, learn how to read, write, and spell the English, without missing a word; and study geography, arithmetic, botany, entomology (the history of insects), geology, book-keeping, chemistry, and mechanics. When you understand the essentials of these branches, it will be time enough to attend to Latin and Greek.

In learning English, it would be a profitable exercise to write an account of your experiments on the farm; get your teacher to correct your composition, write it over again, and send it to the *Agriculturist* for publication. In so doing you will vastly improve your style and will soon acquire a taste and aptness for writing, attainable, perhaps, by no other means.

Attend to geography until you become familiar with the position, boundaries, and general features of all the chief countries of the globe, particularly of the territory of the United States. Study arithmetic and book-keeping until you are able to measure, estimate, and keep an account of every operation of the farm, or of the common concerns of a farmer's life. Make yourselves acquainted with botany, sufficient, at least, to be able to distinguish and write the names of all the trees and plants that are essential to a garden or farm; and with entomology, until you know the names and habits of all the insects injurious to vegetation, meat, wool, &c., and the means by which they may be exterminated or destroyed. In a like manner geology and chemistry should be understood sufficiently to be able to distinguish the names and properties of all the rocks and kinds of soil on the farm and vicinity, and to have a practical as well as a theoretical knowledge of the composition and application of all kinds of fertilizers or manures that are specially adapted to any class of soil or rotation of crops. In studying mechanics, you must become familiar with the laws of motion, as well as those of friction and gravitation, and with what are technically called the "mechanical powers." By acquiring these, and the handy use of the ordinary tools, employed in working wood, much time and expense may be saved on a farm in making and repairing implements and tools, that would otherwise be lost.

S. A.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Acadia we are in the receipt of our foreign journals up to the 4th of November.

MARKETS.—Ashes is limited in demand. Cotton has fallen $\frac{1}{2}$ d per lb. Flour and Indian Meal in good demand at an advance. Beef, Pork, Butter, Cheese, Lard, and Naval Stores, a slight decline. Rice, firm. Tobacco steady. Wool somewhat depressed.

Money was still in great demand at a rate of interest varying from 6 to 10 per cent. Many more failures had taken place to a large amount, although things were considered a little easier.

The Potato-Rot begins to show itself in Great Britain and Ireland again, and large losses are anticipated.

Sheep Affected with the Small-Pox.—A case was lately brought before the police of the Smithfield Market for the sale of twenty Merino sheep affected with the small-pox, having eruptions on various parts, but particularly under the shoulder, which appeared to be similar in character to those of the same disease in the human subject. They were imported from Spain nine weeks before, and had been kept grazing until they were supposed to be in a healthy state. The salesman had rejected about 300 sheep from the same flock the morning of the sale, that were laboring under the disease in the inflammatory stage. The officers very properly ordered the sheep to be removed, on the ground of the offence of bringing animals laboring under contagious diseases into a public market to the danger of all the animals there. The matter was subsequently brought before the faculty of the Veterinary College, who, after examining and testing the contagious properties of the disease, decided that a perfectly healthy animal could, by mere approximation, be infected and die in the space of nine days; while by the process of inoculation, the disease could be conveyed in a much shorter period; and that it is highly dangerous to permit animals so affected to approach those in health. Measures were accordingly adopted by the police to destroy all sheep in a diseased state that might be brought into the market, or offered for sale.

A Valuable Manure.—It has been estimated that the grease, or yolk obtained from the washing of wool in France, might be sufficient to manure 370,000 acres of land.

Agricultural Lectures are about to be delivered in various parts of Ireland, at the suggestion of the Lord Lieutenant.

Comparative Value of Food.—It has been stated that 107 parts of wheat, 111 of rye, 117 of oats, 130 of barley, 138 of Indian corn, 177 of rice, 895 of potatoes, 1335 of turnips, are equal in nutritive power.

Properties of Eggs.—Eggs are popularly supposed to be so much alike, that what can be said about one egg is thought applicable to every other laid by the same species of bird, the common hen for example; but there is nearly as much distinguishable difference between the units in every egg-basket which is carried to market as there is between the faces in a crowd of men, or the hounds in a pack. To every hen belongs an individual peculiarity in the form, color, and size of the egg she lays, which never changes during her whole lifetime, so long as she remains in health, and which is as well known to those who are in the habit of taking her produce as the hand-writing of their nearest acquaintance. Some hens lay smooth cream-colored eggs, others rough, chalky, granulated ones; there is the buff, the snow-white, the spherical, the oval, the pear-shaped, and the emphatically egg-shaped egg. A farmer's wife who interests herself in the matter, will tell you with precision, in looking over her stores, "this egg was laid by such a hen"—a favorite perhaps—"this one by such another;" and it would be possible that she should go on so throughout the whole flock

of poultry. Of course the greater the number kept, the greater becomes the difficulty in learning the precise marks of each. From a basket of 30 eggs, gathered in a farm-yard as they came to hand, 11, laid by one or two hens whose race we were desirous to continue, were selected in about two minutes by the friend who supplied us with them.—*Gardeners' Chronicle.*

Incubation.—From Fortune's "China," vol. i., p. 80, you find the method of hatching the eggs of the duck in cotton wool. Reflecting upon that account it immediately occurred to me that a great error might have been committed both in the Egyptian and steam processes of incubation, by taking for granted that it was from the continued warmth of the mother, instead of only its prevention of escape, which was necessary for the production of the chick. Acting upon this idea, and from the experiment now made, I think I am justified in saying that my surmise will eventually be found true, and that the heat is developed within the egg, precisely in the same manner as our own animal warmth, from the union of its yolk with the oxygen of the atmosphere. Having mown over some pheasant's eggs, apparently only a few days sat upon, I caused them all to be inclosed accordingly in wool, and in due course the whole number of chicks were produced.—*London's Magazine.*

Antidotes against the Potato Disease.—In the early part of this year I dug up, for a vegetable garden, a piece of old pasture, about 40 yards in length, and 30 in breadth, sloping in its shorter line to the southwest, and every way open to sun and air. The subsoil is a stiff blue clay. Part of it I occupied with three patches of potatoes, respectively planted about the middle of March, the middle of April, and the very beginning of May, all of the sort known hereabouts by the name of Shaws, the first planted being of an earlier kind than the others. A previous dressing of about half a ton of quick-lime was bestowed on the whole of the ground. The sets of the first planted potatoes were steeped in a solution of Kagenbusch's Germinating Compound; the second potatoes were planted whole, in holes, at the bottom of which was placed a powder formed of calcined bones, soda, gypsum, wood-ashes, and lime, as recommended by some German professor. The third sets were imbedded in a pulp of mixed grease and potash; in fact, a soft soap, according to an American suggestion, borrowed from your columns. The first crop proved scanty, and of poor quality, but free from disease. The second and third patches, which I have taken up yesterday and to-day, give a plentiful and full sized produce, but at least two-thirds of the tubers are diseased. A few pink kidneys, springing from roots left in the ground last year, and transplanted, prove, for the most part, good. My inference, as far as the value of the preventive measures I have tried, is, that they are empirical and uncertain, and I am inclined to the opinion prevalent among many, that stimulating manures are unfavorable. [From reports received from various sources it would seem that early planted and early harvested potatoes have escaped the prevailing malady, while those which have been affected with the disease have been planted and dug late.—Ed.]—*Gardeners' Chronicle.*

Blue Hydrangeas.—Diluted chamberley will change Hydrangeas blue.—*Ibid.*

Horse-Flesh Banquet at Frankfurt.—About 160 persons sat down yesterday to a horse-flesh dinner, in the Adler Hotel, at Bornheim. The dinner was ordered by the Frankfurt "Society for the Protection of Animals." We are enabled to state that horse-flesh affords a very palatable dish. The dinner was enlivened by many toasts and songs.—*Frankfurter Journal.*

Substitute for Potatoes.—A large importation of West India yams has lately taken place in consequence of the anticipated scarcity of potatoes.

Editor's Table.

DOMESTIC ANIMALS.—History and Description of the Horse, Mule, Cattle, Sheep, Swine, Poultry and Farm-Dogs, with Directions for their Management, Breeding, Crossing, Rearing, Feeding, and Preparation for a Profitable Market; also, their Diseases and Remedies, with Full Directions for the Management of the Dairy. By R. L. Allen. New York: C. M. Saxton, 205 Broadway. 12mo. Price in numbers, 75 cts. with paper covers 50 cents. The title of this work speaks for itself. All we can with propriety say, is, the design of the author is fully carried out, and it is our candid opinion that no book has ever been issued from the American press more useful to the farmer or conveys so much truly practical information on the subjects of which it treats. The prices are sufficiently low to insure its circulation throughout the land.

HARPER'S ILLUSTRATED CATALOGUE of Valuable Standard Works, with Numerous Engravings. New York: Harper & Brothers, pp. 160, 8vo. To librarians connected with colleges, district schools, &c., as well as individuals who may not have access to any reliable guide in forming a true estimate of literary productions, it is believed the present catalogue will prove particularly useful. It embraces the most extensive collection ever published in this country by one house, and with few exceptions in Europe, presenting a series of works occupying a very wide range of literature, the selection of which has been governed by a rigid critical taste, and the prices exceeding low. Copies of the catalogue may be had by personal application to the publishers, or by letters post paid.

THE ROSE; its History, Poetry, Culture and Classification, by S. B. Parsons. New York: Wiley & Putnam, pp. 280, royal octavo with Colored Engravings. Price \$2.00. This work will meet a welcome reception from the admirers of the Rose. The author's connection with a large nursery establishment has given him familiarity with his subject, and his remarks on culture and classification are founded upon observation and experience. The historical department is full of interesting facts and anecdotes, and that of poetry is quite a collection of gems from the most classic authors. On the last department we notice two or three original contributions from the author's own pen, which are highly creditable to his poetic talents. The publishers have done their part well in getting it up. The paper, type, and binding are suitable to the subject, and altogether, form a handsome book. Its history commends it to the general reader; its poetry to the ladies; its botanical classification to the botanist; and its culture and garden classification to the cultivator. We shall be greatly disappointed if this elegant work does not have a large sale. It would be an appropriate Christmas or New Year's gift.

PEACHES AND SILK COCOONS IN LOUISIANA.—We observe by one of the Louisiana papers, that the Rev. A. W. Poole, of Woodland, East Feliciana, besides attending to divinity and literature, is quite successful as an amateur agriculturist. The editor says, on Monday last we saw a fine specimen of peaches of his culture, and cocoons which show that the experiment of raising them in this State is no longer a matter of doubt or uncertainty.

THE CULTURE OF THE GRAPE.—By J. Fisk Allen, Embracing Directions for the Treatment of the Vine, in the Northern States of America, in the open air and under glass-structures, with and without artificial heat. pp. 55 octavo. Price 63 cents. The author of this publication resides in Salem, Massachusetts, being one of the most successful grape-culturists in the United States. He is enabled to write from his own experience, and in the above valuable little work, has given the

vine-grower exactly such information as he is most in need of. We wish in another edition he would treat of the field-culture of the grape as fully as he has of that under glass, and to this he might add the best method of making wine. Most of the works heretofore published on this subject in this country are of foreign origin, and therefore not exactly suited to our climate and situation. What we want are American works from American experience.

WEBSTER'S AMERICAN DICTIONARY of the English Language; Exhibiting the Origin, Orthography, Pronunciation, and Definitions of Words. Abridged from the Quarto Edition of the Author. To which are added a Synopsis of Words differently pronounced by different Orthoepists; and Walker's Key to the Classical Pronunciation of Greek, Latin, and Scripture Proper Names. A New Edition, Revised and Enlarged by Chauncey Goodrich, Professor in Yale College. With the Addition of a Vocabulary of Modern Geographical Names and their Pronunciation. New York: Harper and Brothers, large 8vo. Sheep extra. Price \$3.50. It is universally admitted, both in Europe and in this country, that Webster's Dictionary of the English Language is the best and the most perfect work of the kind ever published. The deep learning, profound research, and persevering industry of the author are too well known by all of his countrymen to require further comment here.

This last edition by Professor Goodrich, has been entirely stereotyped anew, and is now beautifully reprinted in close type, upon large pages with double columns, from perfect plates. Several thousand additional words have been incorporated with copious synonyms now for the first time introduced into this work, embracing all the terms given in the new edition in the quarto form; and the utmost pains have been taken to render every definition full, clear, and commensurate with the progress of the language and age in which we live. As its title imports, it is truly an *American Dictionary*, containing most if not all of our provincial words from North to South, and before any other work of the kind it should be placed in the hands of every farmer's daughter and son; nor have we any hesitation in saying that, from its low price and convenient form, it will not only be introduced into all the higher schools and colleges in the country, but be the constant companion at the desk and fireside of every student in the Union.

THE CASTOR-BEAN.—A friend who has some statistical information with respect to the production of the castor-bean, and the manufacture of the oil, handed us a few days since, the following calculation, which we cheerfully publish, trusting that the farmers of our vicinity will look to the enterprise and test its efficiency.

Say 40 farmers plant 20 acres each; 800 acres at 35 bushels per acre, would yield 28,000 bushels; 28,000 bushels at 50 cents per bushel would amount to.....	\$14,000
1,225 barrels, cost \$1 each,.....	1,225
Freight to N. Y. at \$1.50 per barrel,.....	1,838
Charge for insurance, &c., &c., \$1 per bbl.,.....	1,225
Two hands to make oil, say,.....	512

Total of expenses,.....	\$18,800
28,000 bushels beans will yield 1½ gallons oil per bushel. 49,000 gallons in all—at 60 cents per gallon.....	\$29,400

Deduct expenses, \$18,000, and the 40 farmers, with 20 acres each, would realize the handsome profit of \$10,600. This may be considered figure work, and an easy way to speculate on paper; but we hope the experiment will be tried by our enterprising neighbors. There is too much hemp raised.—*Lexington (Mo.) Express.*

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, NOVEMBER 24, 1847.

ASHES, Pots,.....per 100 lbs.	\$6 00	\$6 06
Pearls,.....dg.	7 81	7 87
BALE ROPE,.....lb.	5	6
BARK, Quercitron,.....ton.	35 00	38 00
BEANS, White,.....bush.	1 00	1 25
BEESEWAX, Am. Yellow,.....lb.	22	25
BOLT ROPE,.....do.	11	12 1/2
BONES, ground,.....bush.	45	55
BRISTLES, American,.....lb.	25	65
BUTTER, Table,.....do.	15	25
Shipping,.....do.	9	15
CANDLES, Mould, Tallow,.....do.	11	12 1/2
Sperm,.....do.	25	38
Stearic,.....do.	20	25
CHEESE,.....do.	5	10
COAL, Anthracite,.....2000 lbs.	5 00	6 00
CORDAGE, American,.....lb.	11	13
COTTON,.....do.	6	9
COTTON BAGGING, Amer. hemp,.....yard,	15	16
FEATHERS,.....lb.	30	40
FLAX, American,.....do.	7 1/2	9
FLOUR, Northern and Western,.....bbl.	6 00	6 25
Fancy,.....do.	6 50	7 00
Southern,.....do.	6 00	6 25
Richmond City Mills,.....do.	—	—
Buckwheat,.....do.	—	—
Rye,.....do.	4 30	4 62
GRAIN—Wheat, Western,.....bush.	1 20	1 38
Southern,.....do.	1 15	1 30
Rye,.....do.	90	92
Corn, Northern,.....do.	73	75
Southern,.....do.	70	72
Barley,.....do.	76	80
Oats, Northern,.....do.	48	50
Southern,.....do.	44	47
GUANO,.....do.	2 50	3 00
HAY, in bales,.....100 lbs.	58	60
HEMP, Russia, clean,.....ton.	220 00	225 00
American, water-rotted,.....do.	160 00	230 00
American, dew-rotted,.....do.	140 00	200 00
HIDES, Dry Southern,.....do.	8	9 1/2
HOPS,.....lb.	7	9
HORNS,.....100.	2 00	10 00
LEAD, pig,.....do.	4 50	4 63
Sheet and bar,.....lb.	4 1/2	5 1/2
MEAL, Corn,.....bbl.	3 00	3 75
Corn,.....hhd.	17 50	18 00
MOLASSES, New Orleans,.....gal.	32	33
MUSTARD, American,.....lb.	16	31
NAVAL STORES—Tur,.....bbl.	2 31	2 50
Pitch,.....do.	81	1 00
Rosin,.....do.	60	75
Turpentine,.....do.	2 75	3 00
Spirits Turpentine, Southern,.....gal.	38	42
OIL, Linseed, American,.....do.	58	60
Castor,.....do.	1 20	1 25
Lard,.....do.	85	90
OIL CAKE,.....100 lbs.	1 25	1 50
PEAS, Field,.....bush.	1 00	1 25
PLASTER OF PARIS,.....ton.	2 25	3 00
Ground, in bbls.,.....of 300 lbs.	1 12	1 25
PROVISIONS—Beef, Mess,.....bbl.	8 50	12 00
Prime,.....do.	5 50	7 50
Smoked,.....lb.	7	11
Rounds, in pickle,.....do.	5	7
Pork, Mess,.....bbl.	13 00	15 00
Prime,.....do.	9 75	12 00
Lard,.....lb.	10	11 1/2
Bacon sides, Smoked,.....do.	6	8
In pickle,.....do.	5	7
Hams, Smoked,.....do.	8	13
Pickled,.....do.	6	10
Shoulders, Smoked,.....do.	6	9
Pickled,.....do.	5	7
RICE,.....100 lbs.	3 00	4 00
SALT,.....sack.	1 40	1 50
Common,.....bush.	20	35
SEEDS—Clover,.....lb.	6	8
Timothy,.....bush.	1 75	3 50
Flax, clean,.....7 do.	10 00	11 00
rough,.....do.	9 25	9 50
SODA, Ash, conf'g 80 per cent. soda,.....lb.	3	3
Sulphate Soda, ground,.....do.	1	—
SUGAR, New Orleans,.....do.	6	9
SUMAC, American,.....ton,	35 00	37 00
TALLOW,.....lb.	9	10
TOBACCO,.....do.	3	8
WHISKEY, American,.....gal.	26	28
WOOLS, Saxony,.....lb.	35	60
Merino,.....do.	30	35
Half blood,.....do.	20	25
Common do,.....do.	18	20

REMARKS.—Cotton, Wheat, and Flour are the only articles which have fallen of any consequence since our last, and the change in these is not very material.

Money is scarce and hard to be obtained except upon the best paper, and that occasionally sells at a considerable discount from legal interest.

The Weather has been highly favorable for the fall business. We hear of no complaints at the North, except of the potatoe-rot. In some districts at the South, Cotton is coming on poorly. Rice has proved a good crop, and Sugar promises a large yield.

TO CORRESPONDENTS.—Communications have been received from David Tomlinson, Calvin Coulter, Jr., L. F. Allen, A Farmer's Wife, F., and A. L. Bingham.

ACKNOWLEDGMENTS.—Specimens of Ground Ivy, or Ale-Hoof from F. of Fairfax, Va., Descriptive Catalogue of Fruit and Ornamental Trees, from Benjamin Hodge, of Buffalo; Proceedings of the Agriculturists' and Mechanics' Association of Louisiana, from D. J. Flukers; and some other pamphlets which have unfortunately been mislaid.

PUBLISHERS' NOTICE.

THE publishers respectfully request all persons indebted to them for the paper, or for advertisements (and those to whom bills have been sent), to remit the amount during this present month, November. A large number of subscribers are yet indebted for the Vol. for 1846, as also, for 1847, now near its close. The Agriculturist was continued to their address to save them trouble (a request being made in the January number that it might be returned if not wanted), and we hope no one will, through neglect, subject us to loss for the accommodation. The heavy expense of publishing our paper compels us to call upon our friends in this manner. The individual amounts due are quite small and apparently unimportant, but the aggregate is large and the receipt of these small amounts would enable us to go on with renewed zeal.

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L. G. HOFFMAN.

Albany, Sept. 1, 1847.

d2t

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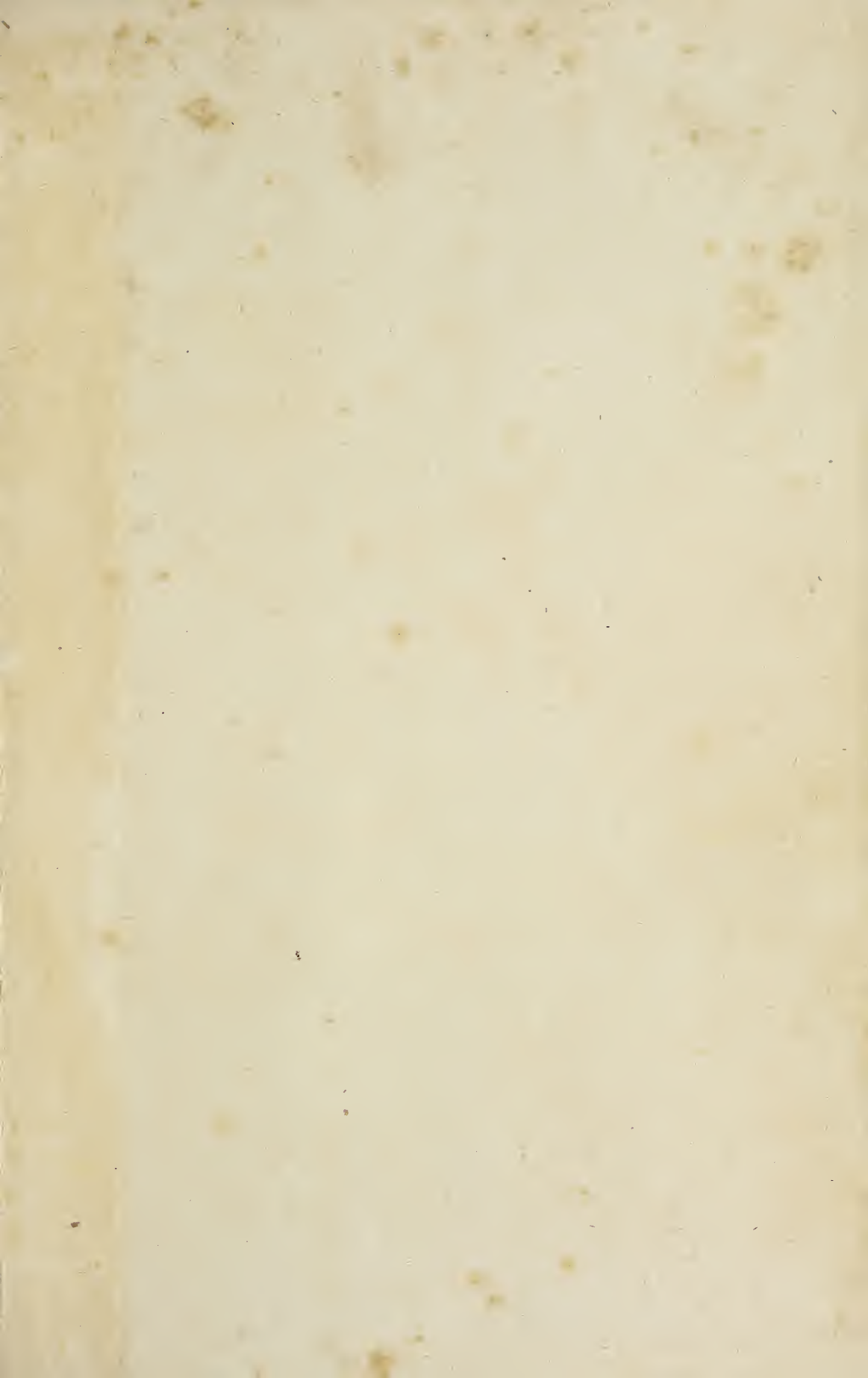
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